

PART A
IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
BOULDER, COLORADO

CRPL-F 189
PART A

NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
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SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1952, and continuing through December 1956, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Sixth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Geneva, 1951. Excerpts concerning symbols and terminology from Document No. 626-E of this Meeting are given on pages 2-7 of the report CRPL-F89, "Ionospheric Data," issued January 1952. Reprints of these pages are available upon request.

Beginning with data for January 1957, the symbols used are given in NBS Report 5033, "Summary of Changes in Ionospheric Vertical Soundings, Observing and Scaling Procedures - Effective 1 January 1957," which draws upon the First Report of the Special Committee on World-Wide Ionospheric Soundings (URSI/AGI), Brussels, Sept. 2, 1956. A list of these symbols is available upon request.

In the Second Report of the Special Committee on World-Wide Ionospheric Soundings of the URSI/AGI Committee, May 1957, a new descriptive letter was introduced:

- M Measurement questionable because the ordinary and extraordinary components are not distinguishable.

There was an expansion in meaning of the following:

- Z (1) (qualifying letter) Measurement deduced from the third magnetoionic component.
- (2) (descriptive letter) Third magnetoionic component present.

Beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

The following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given above.

- a. For all ionospheric characteristics:

Values missing because of A, C, F, H, L, N or R are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F (and h'E near sunrise and sunset) missing for this reason are counted usually as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count.

Values missing because of G are counted:

1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

The symbol W is included in the median count only when it replaces a height characteristic; the descriptive symbol D, only when it replaces a frequency characteristic.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of E or G are counted as equal to or less than the median foE, or equal to or less than the lower frequency limit of the recorder.

B for fEs is counted on the low side when there is a numerical value of a higher layer characteristic; otherwise it is omitted from the median count.

S for fEs is counted on the low side at night; during the day it is omitted from the median count (beginning with data for November 1957).

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with CRPL-F188, Part A, issued April 1960, the count is given for foF2 in the tables of medians. It is regretted that space limitations prevent including detailed counts for other characteristics.

WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 72 and figures 1 to 144 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Republica Argentina, Ministerio de Marina:

Buenos Aires, Argentina

Tucuman, Argentina

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:

Brisbane, Australia

Meteorological Service of the Belgian Congo and Ruanda-Urundi:

Bunia, Belgian Congo

Elisabethville, Belgian Congo

Leopoldville, Belgian Congo

Belgian Royal Meteorological Institute:

Lwiro (Central African Institute for Scientific Research)

Electronics Directorate of the Brazilian Navy:

Natal, Brazil

British Department of Scientific and Industrial Research, Radio Research Board:

Ibadan, Nigeria (University College of Ibadan)

Port Lockroy

Singapore, British Malaya

Universidad de Concepcion:

Concepcion, Chile

Radio Wave Research Laboratories, National Taiwan University,

Taipeh, Formosa, China:

Formosa, China

Instituto Geofisico de Los Andes Colombianos:

Bogota, Colombia

Ionospheric Institute, Breisach, Germany:

Freiburg, Germany

Central Institute of Meteorology, Budapest, Hungary:

Budapest, Hungary

Icelandic Post and Telegraph Administration:
Reykjavik, Iceland

Geophysical and Geodetic Institute, Genoa, Italy:
Monte Capellino, Italy

Manila Observatory:
Baguio, P. I.

Rhodes University, Union of South Africa:
Grahamstown, Union of South Africa

Research Institute of National Defence, Stockholm, Sweden:
Upsala, Sweden

Royal Board of Swedish Telegraphs, Radio Department, Stockholm, Sweden:
Lulea, Sweden

United States Army Signal Corps:
Adak, Alaska
Cape Canaveral, Florida
Ft. Monmouth, New Jersey
Grand Bahama I.
Okinawa I.
White Sands, New Mexico

National Bureau of Standards (Central Radio Propagation Laboratory):
Anchorage, Alaska
Boulder, Colorado
Byrd Station, Antarctica
Fairbanks (College), Alaska (Geophysical Institute of the
University of Alaska)
Maui, Hawaii
Point Barrow, Alaska
Washington, D. C.

TABULATIONS OF ELECTRON DENSITY DATA

Reduction of hourly ionospheric vertical soundings to electron density profiles has become a part of the systematic ionospheric data program of the Central Radio Propagation Laboratory, National Bureau of Standards. Scalings of ionograms for this purpose are being provided by ionosphere stations operated by CRPL and the U. S. Army Signal Corps. For the present, the hourly profile data from one CRPL station, Puerto Rico, are appearing in the monthly CRPL-F Reports, Part A. These data are in place of the standard ionogram reductions formerly provided by this Station. The very considerable task of scaling the ionograms for this purpose is being undertaken by T. R. Gilliland, Engineer in Charge, Puerto Rico Ionosphere Sounding Station; the computations are performed at the NBS Boulder Laboratories by a group headed by J. W. Wright. Basic conversion of virtual to true heights uses the well-known matrix method developed by K. G. Budden of the Cavendish Laboratory, Cambridge University, programmed for an IBM 704 computer.

The tabulations provide the following basic electron density profile data for each hour of each day of the month:

<u>Quantity</u>	<u>Units</u>	<u>Remarks</u>
Electron Density (N)	$\times 10^3 = \text{electrons/cm}^3$	Body of table; given at each 10 km of height.
NMAX	$\times 10^3 = \text{electrons/cm}^3$	Always the highest value of N at each hour. To maintain this rule, the electron density at the next 10 km increment above HMAX is always given as exactly equal to NMAX (unless HMAX coincides with a 10 km level).
QUALification	(Alphabetic)	A standard scaling letter qualifying the observation when necessary.
HMIN	Kilometers	The height of zero or very low electron density, obtained by linear extrapolation of the electron density vs. height curve.
SCAT	Kilometers	One half of the half-thickness of the parabola best fitting the upper portion of the F region profile. Approximates the scale height near the level HMAX.
HMAX	Kilometers	The height of maximum electron density, determined by fitting a parabola to the upper portion of the profile.
SHMAX	$\times 10^{10} = \text{electrons/cm}^2$ column.	Obtained by integration of the profile between the limits HMIN and HMAX.

Tabulations of the average electron densities each hour, at each 10 km level, for the quiet ionosphere, are also given. These averages include the profiles obtained when the magnetic character figure Kp is less than 4+. The number of profiles entering the average for each hour is given by CNT. The other parameters of the layer, HMIN, SCAT, HMAX, SHMAX, are averaged in a similar way.

Before the averaging process, the individual profiles are extrapolated above HMAX by a Chapman distribution of 100 km scale height. This assumed model seems to agree well with the few published measurements dealing with the topside profile of the F-region.* Extrapolation is necessary in order to calculate homogeneous averages near HMAX and the average profiles are, in fact, given up to 950 km. Also given are the average estimated integrated electron densities to infinity, SHINF (same units as SHMAX); this is an approximation to the total electron content in a column of the ionosphere.

*See Wright, J.W. "A Model of the F-Region Above HMAX F2" J.Geophys.Res. V.65 pp 185-191.

ELECTRON DENSITY

	PUERTO RICO					60 W					1 JAN 1960				
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	A		
QUAL															
HMIN	239	213	193	177	276	206	193	203	111	110	111				
SCAT	47.5	42.2	45.7	53.5	52.8	54.1	63.5	46.9	45.5	40.0	40.4				
HMAX	336	296	294	318	394	319	334	303	285	278	279				
SHMAX	343	277	161	173	162	132	180	291	1026	1385	1561				
KM															
400					219										
390					218										
380					215										
370					207										
360					195										
350					180										
340					161		203								
330	557				138		203								
320	541			214	112	179	201								
310	513			213	87.3	178	196	469							
300	479	516	257	208	63.7	174	189	468							
290	427	513	256	199	45.6	166	179	459	1555						
280	362	498	250	186	16.2	156	167	439	1550	2161	2396				
270	271	467	238	170		143	152	411	1512	2137	2363				
260	161	426	222	151		127	134	369	1436	2047	2254				
250	71.4	362	198	131		106	114	310	1341	1889	2087				
240	12.4	262	164	110		83.8	92.9	240	1176	1669	1817				
230		143	125	90.2		61.9	73.9	157	941	1373	1469				
220		60.0	88.2	72.6		45.2	58.2	83.8	663	1004	1143				
210			57.9	58.2		16.1	44.7	44.7	432	716	834				
200			32.2	46.8			21.4		286	517	587				
190				32.2					195	389	440				
180				7.4					146	300	351				
170									115	244	286				
160									97.2	205	240				
150									91.0	173	198				
140									84.7	150	169				
130									78.4	137	154				
120									72.1	127	145				
110										40.2					

ELECTRON DENSITY

	PUERTO RICO							60 W				1 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300			
QUAL	A	A	A	A	A	A	A				A	F			
HMIN								189	188	189	195	21			
SCAT								40.0	48.0	52.8	53.9	73.3			
HMAX								280	314	315	329	375			
SHMAX								594	432	368	247	275			
KM															
380													262		
370													262		
360													260		
350													255		
340													248		
330											316		237		
320									608	508	314		224		
310									606	507	305		209		
300									594	497	292		192		
290								1084	567	479	275		175		
280								1084	527	452	251		157		
270								1067	477	417	222		139		
260									1014	417	368	188	120		
250									930	355	310	154	99.7		
240									807	286	240	121	77.5		
230									653	213	164	91.5	56.5		
220									493	143	112	66.3	40.2		
210									286	94.3	74.6	47.3			
200									112	60.0	47.6	19.9			
190									12.4	12.4	7.3				

ELECTRON DENSITY

PUERTO RICO 60 W 3 JAN 1960											
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000 1100
OUAL									A	A	A
HMIN	241	213	203	195	247	189	189	197	110	109	
SCAT	47.1	29.9	28.2	58.5	50.6	54.9	55.1	43.1	36.0	40.6	
HMAX	344	291	265	325	366	334	318	301	266	286	
SHMAX	339	242	162	189	171	207	189	265	629	1304	
KM											
370					235						
360					234						
350					229						
340	540				219	251					
330	529			229	203	251					
320	506			229	184	247	240				
310	471			225	162	238	239	432			
300	424	573		219	139	226	234	432			
290	362	573		207	112	210	225	425	2000		
280	286	552		194	86.0	189	211	404	1987		
270	198	501	432	177	62.8	165	195	375	1004	1918	
260	105	417	428	158	64.4	141	174	335	997	1796	
250	49.6	300	401	137	12.4	116	150	286	951	1601	
240		179	347	114		93.8	127	225	868	1318	
230		80.4	262	90.0		74.6	99.4	161	754	1024	
220		42.0	127	66.9		59.2	74.6	107	608	730	
210			51.9	48.1		46.4	54.1	62.9	466	508	
200				20.3		28.5	37.0	19.6	349	383	
190						1.7	1.8		262	301	
180									198	243	
170									157	198	
160									129	166	
150									110	143	
140									97.2	130	
130									91.9	122	
120									86.6	117	
110									12.4	83.8	

ELECTRON DENSITY

PUERTO RICO 60 W 3 JAN 1960											
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200 2300
OUAL		A	A	A		A	A	A	A	F	F
HMIN				108				208	206	197	205 228 200
SCAT				54.0				42.9	53.3	47.7	60.8 49.8 48.6
HMAX				312				309	326	326	342 336 339
SHMAX				1525				711	619	455	471 362 359
KM											
350										573	
340										573	548 477
330									875	652	567 546 473
320				1612					872	649	554 534 458
310				1611				1167	855	632	532 511 433
300				1591				1153	823	601	504 479 398
290				1539				1107	778	555	468 431 356
280				1453				1026	712	497	420 371 312
270				1349				925	621	474	364 295 267
260				1240				801	508	345	299 209 219
250				1102				654	389	268	230 112 168
240				968				477	262	198	161 60.0 122
230				834				310	161	132	97.2 12.4 86.2
220				707				127	83.8	83.8	60.0 60.0
210				595				28.2	40.2	53.0	30.0 41.4
200				498					17.7		
190				423							
180				362							
170				310							
160				270							
150				235							
140				207							
130				183							
120				167							
110				112							

ELECTRON DENSITY

PUERTO RICO 60 W 4 JAN 1960											
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000 1100
OUAL			S								
HMIN	230	227	212	202	211	218	205	195	109	109	108 108
SCAT	45.8	36.3	29.4	33.5	73.4	61.2	56.0	48.8	40.9	40.7	34.5 57.0
HMAX	331	309	278	274	375	354	317	313	284	280	268 280
SHMAX	364	289	237	121	191	174	137	255	744	1345	1309 1230
KM											
380					184						
370					184						
360					182	203					
350					178	203					
340	599				171	201					
330	599				163	194					
320	591				155	186	184	375			
310	568	582			145	178	183	375			
300	533	573			135	164	180	368			
290	481	543			123	147	172	353	1050	2032	1380
280	405	489	608	268	110	127	164	336	1047	2032	1380
270	316	417	597	267	96.4	107	152	303	1020	2001	2193 1370
260	219	319	552	256	82.1	85.7	137	257	960	1907	2164 1336
250	112	198	477	233	68.2	66.4	118	204	875	1759	2045 1275
240	54.3	91.2	335	198	55.8	51.0	94.5	154	761	1540	1828 1203
230		31.0	179	143	44.4	36.3	70.0	112	631	1266	1536 1113
220			60.0	80.8	23.3	6.4	49.6	76.7	500	937	1214 1004
210				44.5			21.0	51.7	389	694	875 875
200								21.7	310	508	621 754
190									240	389	446 620
180									190	310	354 488
170									153	254	293 374
160									125	213	250 300
150									106	182	213 250
140									95.1	157	182 215
130									89.5	140	161 189
120									83.8	131	150 168
110									12.4	71.4	118 112

ELECTRON DENSITY

PUERTO RICO 60 W 4 JAN 1960											
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200 2300
OUAL		S		A	A	A		A		F	A
HMIN	107	108	109	108	110	111	199	188	199	238	214 199
SCAT	54.8	57.8	71.5	62.0	47.2	58.0	44.8	49.2	56.0	41.6	44.0 54.5
HMAX	310	317	335	319	303	311	304	312	334	326	332 319
SHMAX	1381	1575	1997	1597	1227	1375	857	595	454	284	288 309
KM											
340				1786						582	432
330				1783						581	516 431
320	1446	1669	1765	1669		1555		814	572	513	424 417
310	1446	1663	1730	1660	1528	1555	1393	813	554	497	402 414
300	1434	1633	1677	1631	1526	1542	1391	802	526	464	370 404
290	1398	1579	1605	1580	1497	1506	1360	775	491	417	335 387
280	1341	1508	1521	1502	1431	1446	1284	729	446	362	291 363
270	1254	1430	1415	1408	1341	1355	1186	668	389	276	240 333
260	1143	1273	1292	1292	1216	1252	1061	593	325	161	192 293
250	1022	1024	1170	1143	1050	1131	895	516	258	76.6	143 247
240	891	885	1030	1004	888	983	696	434	185	21.7	95.1 198
230	768	754	875	848	736	822	477	349	121		60.0 134
220	659	634	737	679	608	655	262	262	75.4		33.5 83.8
210	566	536	608	540	490	499	112	179	48.1		51.4
200	485	453	508	417	389	383	12.4	88.7	7.1		6.3
190	417	389	427	331	302	295		24.6			
180	357	335	362	271	235	229					
170	299	295	306	223	191	181					
160	244	262	262	189	138	149					
150	203	233	230	161	119	127					
140	182	187	205	146	110	111					
130	172	160	190	138	105	101					
120	164	149	172	132	101	89.3					
110	112	112	71.4	97.2	60.0						

ELECTRON DENSITY

RUERTO RICO 60 W 7 JAN 1960											
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000 1100
QUAL		A									C C
HMIN	234	234	209	194	225	220	209	220	109	110	
SCAT	47.8	29.4	32.3	28.9	79.2	69.5	54.4	46.4	36.4	42.6	
HMAX	363	309	280	254	377	368	338	299	263	280	
SHMAX	386	281	292	124	234	223	218	278	663	1139	
KM											
380					229						
370	565				229	235					
360	564				227	234					
350	554				223	231					
340	529				216	225	280				
330	494				208	217	278				
320	446				200	206	273				
310	379	688			188	194	262				
300	306	673			176	179	246	477			
290	234	619	697		161	161	226	472		1555	
280	169	523	697		135	140	201	456		1555	
270	112	375	680		112	118	174	429	1027	1533	
260	76.5	219	628	323	89.4	95.3	145	393	1025	1468	
250	52.4	102	540	321	67.6	71.4	114	340	989	1358	
240	25.6	49.6	389	303	47.7	51.9	83.8	272	917	1213	
230			198	268	20.1	33.1	60.0	179	823	1033	
220			83.8	211			42.0	40.2	703	845	
210			12.4	127			4.3		573	669	
200				49.6					446	525	
190									335	417	
180									240	335	
170									179	278	
160									140	230	
150									115	193	
140									99.9	165	
130									91.9	145	
120									85.3	134	
110									49.6	49.6	

ELECTRON DENSITY

RUERTO PICO				60 W					7 JAN 1960				
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
QUAL		A	S										
HMIN	108	110	109	110	109	214	192	218	210	188	226		
SCAT	57.5	56.2	60.4	53.0	58.2	50.9	48.6	44.3	49.3	61.5	55.5		
HMAX	317	316	324	330	318	311	315	328	319	334	387		
SHMAX	2029	2072	1995	1990	2022	1278	819	606	547	467	346		
KM													
390												403	
380												401	
370												393	
360												376	
350												355	
340					2161						540	329	
330			2000	2161				971			540	296	
320	2096	2193	1998	2140	2430	1922	1191	962	834	534	260		
310	2088	2186	1973	2080	2418	1922	1188	929	826	520	223		
300	2050	2147	1920	1975	2371	1901	1163	871	802	499	187		
290	1981	2072	1835	1837	2287	1843	1112	788	759	473	153		
280	1877	1954	1730	1669	2174	1743	1038	679	702	437	122		
270	1742	1811	1596	1484	2032	1611	937	555	624	394	97.2		
260	1581	1642	1446	1288	1813	1446	819	423	522	344	73.3		
250	1403	1446	1270	1077	1555	1240	679	276	396	291	55.6		
240	1219	1258	1085	902	1240	985	532	155	262	240	41.7		
230	1040	1096	925	754	960	643	362	71.4	143	185	12.4		
220	884	917	783	620	679	310	208	21.2	64.7	133			
210	754	754	658	516	460		106						
200	643	608	552	432	323		53.0				89.7		
190	540	494	466	365	240						55.4		
180	455	410	395	310	188						12.4		
170	377	354	335	262	154								
160	310	308	286	224	129								
150	262	266	246	193	111								
140	219	227	213	168	97.2								
130	189	197	185	147	92.0								
120	172	186	169	135	86.8								
110	143	97.2	60.0	60.0	49.6								

ELECTRON DENSITY

	PUERTO RICO					60 W				8 JAN 1960			
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
QUAL													
HMIN	272	220	196	190	227	201	191	198	115	108	108	108	
SCAT	36.6	28.2	33.7	49.2	52.4	43.6	56.5	46.6	44.2	38.9	46.7	56.2	
HMAX	360	287	262	296	357	293	321	309	275	275	271	285	
SHMAX	263	228	150	155	196	158	159	314	828	1141	1288	1426	
KM													
370	508												
360	508				257								
350	498				256								
340	469				250								
330	422				240		198						
320	354				224		198						
310	271				205		197	492					
300	189				182	268	192	488					
290	105	608			228	156	268	484	472			1626	
280	53.7	599			223	129	262	172	449	1240	1727	1786 1622	
270		553	348	212	101	249	159	408	1236	1719	1786	1595	
260		469	348	198	76.5	229	142	354	1206	1661	1763	1540	
250		310	336	179	56.2	202	121	286	1143	1546	1699	1464	
240		150	313	154	41.0	165	100	206	1050	1378	1596	1359	
230		66.8	268	125	9.1	121	79.2	140	917	1174	1446	1231	
220			194	94.3		77.5	61.4	89.6	740	943	1255	1096	
210			97.2	65.5		46.0	47.0	53.8	558	716	1050	906	
200			40.2	42.0			27.1	12.4	389	540	754	741	
190									275	403	540	589	
180									198	304	389	437	
170									145	240	306	389	
160									117	189	265	316	
150									99.6	155	222	257	
140									92.3	131	187	211	
130									86.5	122	163	182	
120									71.4	116	151	169	
110										83.8	112	127	

ELECTRON DENSITY

	RUERTO RICO					60 W				8 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
QUAL	A												
HMIN	109	109	110	110	110	111	207	186	222	216	197	209	
SCAT	52.2	52.7	47.2	61.4	61.0	55.7	52.2	74.7	50.7	39.1	42.7	34.0	
HMAX	302	312	305	319	343	320	307	347	343	316	319	306	
SHMAX	1566	1730	1624	1675	1971	1863	1187	986	605	455	390	253	
KM													
350						1984				993	865		
340						1983				991	864		
330						1962	2260			981	851		
320	1846			1683		1914	2260			962	820	814 608	
310	1669	1845	1969	1674	1835	2242	1741	938	775	808	601	477	
300	1668	1822	1963	1643	1740	2187	1734	912	710	778	577	473	
290	1647	1756	1919	1590	1611	2097	1696	854	624	723	536	451	
280	1596	1657	1825	1509	1446	1966	1626	783	517	637	481	406	
270	1509	1542	1697	1411	1272	1803	1523	702	408	540	417	346	
260	1401	1394	1522	1295	1129	1583	1391	614	310	417	346	286	
250	1259	1240	1328	1143	944	1341	1224	524	198	279	262	219	
240	1119	1111	1096	1004	778	1096	1020	437	112	153	179	152	
230	960	960	893	853	643	823	754	353	56.0	80.8	116	97.2	
220	834	820	727	716	530	597	446	277	40.2			75.8 53.7	
210	710	704	599	608	446	425	127	204				48.5 5.5	
200	616	585	503	508	379	303	117			12.4			
190	536	484	426	429	318	225	49.6						
180	468	403	362	362	262	177							
170	412	335	310	306	215	143							
160	362	282	262	262	176	120							
150	318	244	225	225	141	105							
140	273	213	192	192	124	95.5							
130	227	194	174	173	119	90.5							
120	191	184	164	161	114	85.5							
110	127	112	49.6	12.4	12.4								

ELECTRON DENSITY

PUERTO RICO											9 JAN 1960										
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100									
OVAL																					
HMIN	206	226	208	216	197	195	195	231	109	109	109	110									
SCAT	45.5	47.2	32.9	50.3	61.8	73.1	54.4	30.5	38.8	33.7	44.3	44.7									
HMAX	336	338	284	315	337	360	330	301	262	259	251	273									
SHMAX	238	231	152	197	219	224	152	202	762	901	817	1054									
KM																					
370						219															
360						219															
350						218															
340	342	348			251	215	189														
330	340	346			250	210	189														
320	331	336		298	246	202	187														
310	313	318		297	239	192	182														
300	286	292		291	226	181	173	484													
290	252	259	335	278	212	168	162	468													
280	212	216	334	263	196	153	147	427													
270	173	167	320	240	178	136	131	362	1328			1341									
260	134	121	291	206	156	117	113	262	1327	1640	1240	1313									
250	102	80.8	246	166	133	98.7	95.0	143	1296	1609	1240	1253									
240	76.3	51.5	175	119	109	81.3	78.5	65.9	1220	1506	1219	1154									
230	57.1	17.4	112	71.4	83.8	65.3	64.6		1113	1341	1168	1034									
220	42.4		57.4	26.8	62.0	51.1	49.6		893	1032	1087	890									
210	12.4		12.4		44.7	38.8	38.0		643	716	960	735									
200					12.4	12.4	12.4		402	508	811	608									
190									371	362	608	502									
180									190	277	389	425									
170									148	223	271	362									
160									122	183	213	310									
150									104	154	161	262									
140									93.9	135	143	222									
130									87.2	117	138	182									
120									71.4	104	132	167									
110									49.6	60.0	97.2	83.8									

ELECTRON DENSITY

PUERTO RICO											9 JAN 1960										
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300									
OVAL	A	A	S	A	A	A															F
HMIN	110	106	110	110	110																
SCAT	60.4	54.8	62.5	58.1	61.1																
HMAX	315	307	329	332	327																
SHMAX	1479	1610	1706	1687	1759																
KM																					
360																					516
350																					515
340																					510
330					1786																501
320	1446		1632	1767	1780																461
310	1444	1756	1603	1723	1752																461
300	1424	1748	1555	1649	1699																455
290	1385	1713	1478	1555	1619																438
280	1321	1646	1387	1432	1522																414
270	1235	1563	1275	1279	1398																383
260	1143	1446	1164	1078	1256																347
250	1037	1271	1036	897	1104																293
240	917	1096	899	740	951																219
230	805	917	768	608	794																134
220	702	739	652	513	655																75.7
210	616	595	552	434	525																29.1
200	540	497	467	373	425																
190	465	430	393	323	353																
180	392	382	328	268	298																
170	329	342	278	214	253																
160	271	305	233	176	214																
150	219	268	196	157	182																
140	182	236	172	144	158																
130	161	208	158	138	141																
120	151	190	150	131	130																
110	49.6	167	97.2	49.6	40.2																

ELECTRON DENSITY

	PUERTO RICO						60 W			10 JAN 1960					
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100			
OVAL															
HMIN	198	202	197	196	185	256	275	249	110	109	109	109			
SCAT	37.0	36.7	50.5	55.5	64.4	73.2	54.5	42.8	53.6	51.6	42.5	61.9			
HMAX	279	283	316	324	323	418	410	334	290	298	287	301			
SHMAX	136	120	140	150	144	188	199	252	734	1371	1711	1883			
KM															
420						184	251								
410						183	251								
400						181	249								
390						176	243								
380						170	231								
370						164	218								
360						156	198								
350						145	176								
340						132	151	461							
330						117	125	460							
320			189	188	161	101	97.2	448							
310			188	186	159	85.7	74.6	424				2032			
300			184	180	156	71.4	56.5	389	949	1669		2032			
290		235	175	170	150	58.6	42.8	335	949	1657	2465	2016			
280	268	234	164	158	143	47.1	15.5	255	941	1615	2447	1974			
270	264	227	149	143	132	33.4		143	917	1540	2364	1907			
260	250	210	131	127	121	10.1		71.4	878	1439	2208	1805			
250	226	186	112	107	109			12.4	818	1302	1991	1687			
240	192	152	92.8	87.2	94.0				731	1143	1712	1542			
230	148	112	75.0	69.8	78.8				616	960	1385	1373			
220	97.2	73.9	58.6	54.6	64.2				477	771	1050	1178			
210	56.0	43.6	43.7	41.3	50.6				350	595	754	960			
200	12.4		12.4	12.4	38.8				252	455	553	767			
190					12.4				187	351	417	584			
180									143	280	346	417			
170									115	230	294	325			
160									95.9	191	251	271			
150									83.8	161	214	228			
140									80.0	138	179	195			
130									76.1	124	159	176			
120									72.3	116	148	165			
110										71.4	97.2	112			

ELECTRON DENSITY

	PUERTO RICO					60 W					11 JAN 1960				
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100			
QUAL	.	F	F				F								
HMIN	217	219	221	198	229	210	217	240	109	109	110	110			
SCAT	40.4	45.5	42.2	66.6	52.4	57.3	58.8	38.0	44.9	36.0	45.5	77.7			
HMAX	314	332	306	361	361	353	352	306	279	266	266	296			
SHMAX	267	272	241	270	257	279	333	287	1121	1318	1405	1320			
KM															
370				268	335										
360				268	335	335	417								
350				266	331	335	417								
340		424		261	321	331	413								
330		424		253	305	322	403								
320	469	418		242	284	307	387								
310	468	401	446	226	255	287	366	625							
300	455	373	444	209	221	262	337	621							
290	426	335	430	190	185	234	302	595							1191
280	386	286	403	170	149	203	259	551	1669						1189
270	329	229	366	150	114	170	210	477	1651	2327	2063	1158			
260	266	166	310	132	83.8	137	151	362	1593	2310	2055	1126			
250	193	109	219	114	58.2	105	97.2	161	1494	2009	2000	1089			
240	112	71.4	112	97.2	41.4	74.3	66.9	17.4	1361	2032	1895	1037			
230	62.6	45.0	56.7	82.7	4.7	52.7	45.9		1158	1731	1742	974			
220	19.6	2.5		68.2		33.5	12.4		917	1341	1555	900			
210				52.5					619	1004	1279	822			
200				12.4					459	608	987	739			
190									310	389	643	551			
180									219	286	417	551			
170									161	227	310	440			
160									127	185	252	335			
150									108	153	209	276			
140									94.5	130	175	231			
130									86.2	121	157	189			
120									75.7	114	147	168			
110									40.2	49.6	12.4	60.4			

ELECTRON DENSITY

	PUERTO RICO				60 W				11 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL							A	A				
HMIN	109	109	109	108	110	111	209		222	220	207	228
SCAT	67.2	64.5	69.1	59.3	70.9	59.4	54.9		68.6	46.6	42.9	44.9
HMAX	322	329	335	339	345	326	333		358	325	323	319
SHMAX	1577	1806	1889	1873	2120	1711	1208		927	588	523	455
RM												
360									1119			
350					1922				1115			
340			1669	1786	1915				1096			
330	1393	1669	1666	1775	1899	1907	1669		1064	960	854	
320	1393	1660	1648	1739	1860	1902	1668		1017	958	853	774
310	1381	1611	1612	1677	1802	1873	1666		955	936	835	765
300	1354	1582	1559	1579	1717	1817	1598		880	893	794	737
290	1307	1508	1483	1467	1620	1727	1519		784	828	724	690
280	1255	1423	1394	1341	1508	1619	1422		669	737	643	625
270	1180	1314	1289	1215	1379	1486	1285		540	608	529	529
260	1096	1190	1171	1105	1240	1323	1129		389	446	417	417
250	994	1064	1050	984	1084	1160	917		250	286	286	286
240	898	927	917	863	938	975	679		139	143	161	143
230	803	794	794	744	794	777	417		60.0	66.6	97.2	26.3
220	716	679	685	631	671	591	179				57.4	
210	634	586	599	528	553	417	17.4				18.0	
200	564	512	522	442	446	291						
190	496	451	455	369	362	209						
180	433	398	396	307	291	163						
170	372	347	344	256	236	134						
160	318	302	296	215	198	114						
150	275	262	255	189	167	102						
140	237	230	224	169	146	94.5						
130	190	205	204	156	136	89.5						
120	170	186	185	148	124	84.6						
110	71.4	60.0	112	97.2	12.4							

ELECTRON DENSITY

	PUERTO RICO				60 W				12 JAN				1960
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
QUAL				F	F								
HM1N	211	208	190	194	294	283	258	230	110	112	109	110	
SCAT	46.1	31.6	39.5	58.5	59.6	50.5	45.8	36.7	30.0	35.9	51.7	66.8	
HMAX	298	271	269	294	434	394	348	295	257	259	275	301	
SHMAX	408	187	154	86	179	184	237	352	721	902	1227	1365	
KM													
440					208								
430					208								
420					206								
410					200								
400					191	262							
390					181	262							
380					166	257							
370					149	247							
360					129	231							
350					109	212	396						
340					90.2	186	393						
330					72.6	155	381						
320					56.7	121	360						
310					43.5	89.7	330					1341	
300	716			115	18.4	62.4	289	794				1341	
290	711			115		40.2	236	790				1332	
280	689	469		114			172	760			1669	1309	
270	652	469	298	110			83.8	702			1665	1270	
260	597	455	294	105			23.7	608	1640	1555	1635	1214	
250	508	420	280	98.8				446	1620	1533	1574	1152	
240	389	354	257	90.5				198	1509	1446	1482	1064	
230	228	240	227	80.4				12.4	1316	1297	1363	960	
220	88.5	97.2	175	69.2					875	1096	1143	854	
210		24.6	112	55.4					477	834	917	746	
200			57.2	36.8					286	588	660	631	
190									192	389	446	518	
180									140	294	327	417	
170									109	234	259	335	
160									87.7	186	202	286	
150									81.1	149	157	232	
140									77.8	127	142	174	
130									74.4	120	137	157	
120									69.8	113	131	149	
110									12.4		97.2	112	

ELECTRON DENSITY

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ELECTRON DENSITY

PUERTO RICO										60 W		13 JAN 1960			
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100			
QUAL	A	C	C	C	C	C	C	C	C						
HMIN	196									110	108	109			
SCAT	41.3									34.3	46.4	37.1			
HMAX	310									270	277	262			
SHMAX	195									1019	1325	1157			
KM															
320	310														
310	310														
300	306														
290	292														
280	269									1669	1786				
270	238									1669	1775	1815			
260	198									1635	1725	1814			
250	161									1527	1631	1766			
240	122									1353	1504	1650			
230	90.4									1143	1324	1470			
220	65.2									889	1123	1240			
210	46.1									660	875	931			
200	16.3									500	658	703			
190										389	499	517			
180										303	381	417			
170										244	310	354			
160										198	262	307			
150										163	222	265			
140										138	188	225			
130										124	163	187			
120										114	149	168			
110										40.2	97.2	112			

ELECTRON DENSITY

PUERTO RICO										60 W		13 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300			
QUAL	A	A	A	A	A	A	A	A	A						
HMIN	110	109	110	109	110		208	205	225	191	189	187			
SCAT	57.8	57.9	61.6	59.5	70.8		61.5	51.1	33.0	38.4	70.9	89.2			
HMAX	300	304	309	303	319		329	327	296	273	337	383			
SHMAX	1505	1441	1496	1253	1402		1022	752	537	292	264	283			
KM															
390												229			
380												229			
370												228			
160												226			
150												222			
340												215			
330												208			
320						1316						201			
310	1569	1500	1514	1240	1310		1290	1072				201			
300	1569	1499	1506	1239	1291		1259	1042				192			
290	1558	1480	1479	1225	1259		1218	996	1265			180			
280	1524	1439	1432	1193	1211		1160	929	1255			167			
270	1466	1375	1364	1143	1158		1083	843	1193	582	219	152			
260	1380	1282	1269	1075	1088		991	733	1072	581	202	136			
250	1277	1175	1168	993	992		875	608	887	566	185	120			
240	1150	1050	1050	903	885		728	461	573	530	167	103			
230	1012	917	896	806	764		540	310	240	477	150	86.4			
220	875	780	754	711	643		349	179	60.0	389	133	71.4			
210	754	657	635	622	540		179	83.8		286	114	58.2			
200	634	554	534	540	446		40.2	42.4		152	93.6	46.8			
190	534	468	451	462	374					64.6	67.9	31.9			
180	452	397	385	389	315						12.4	7.5			
170	383	340	328	328	262										
160	326	294	281	278	219										
150	282	254	243	236	187										
140	247	222	210	203	164										
130	219	198	192	179	145										
120	185	184	181	168	133										
110	49.6	83.8	40.2	71.4	49.6										

ELECTRON DENSITY

PUERTO RICO										60 W		14 JAN 1960			
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100			
QUAL					J				S		A	A			
HMIN	289	286	204	189	338	262	283	259	109	109	110				
SCAT	53.2	61.5	45.8	39.5	52.6	55.7	63.4	33.1	32.5	44.6	43.1				
HMAX	415	425	301	256	431	384	414	322	254	284	284				
SHMAX	183	222	219	74	70	139	171	184	619	1215	1515				
KM															
440					104										
430					104										
420	240	256			103		198								
410	240	253			100		198								
400	235	246			94.5		196								
390	227	236			87.0	179	191								
380	214	223			78.5	179	184								
370	197	206			68.8	176	174								
360	175	186			57.2	171	163								
350	152	162			44.4	162	149								
340	125	137			7.9	150	131								
330	99.5	112				136	110	439							
320	75.2	87.0				120	87.2	439							
310	54.8	62.7	355			100	67.1	426							
300	37.0	45.2	355			81.1	49.6	393							
290	1.8	16.1	350			63.2	26.8	339	1669	2193					
280			336			47.3	248		1666	2188					
270			314			25.1	127	1629	2134						
260			286	148			12.4	1240	1549	2019					
250			244	147				1235	1426	1846					
240			194	141				1183	1265	1615					
230			137	132				1078	1096	1341					
220			79.4	120				875	875	1004					
210			40.2	97.2				643	659	741					
200				66.0				389	491	559					
190				12.4				219	375	434					
180								153	292	340					
170								115	235	268					
160								93.7	193	212					
150								82.3	161	173					
140								77.8	136	152					
130								73.2	123	140					
120								64.0	116	133					
110								40.2	83.8	97.2					

ELECTRON DENSITY

	PUERTO RICO					60 W					14 JAN 1960				
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300			
QUAL	A	A	S						A		A				
HMIN	108	109	109	109	108	109	238	221	227	208	193	190			
SCAT	50.5	54.2	60.0	70.2	76.4	59.4	60.9	44.6	45.0	51.4	57.3	52.0			
HMAX	301	315	328	339	339	329	356	328	310	320	343	339			
SHMAX	1468	1600	1786	2010	1980	1456	1370	1056	928	565	576	420			
KM															
360							1727								
350							1723								
340							1697				697				
330					1786	1727					697				
320			1801	1778	1721	1555	1649	1771			794	688			
310		1669	1793	1753	1701	1546	1577	1758	1683		794	669			
300	1669	1665	1762	1710	1666	1514	1480	1703	1683		786	639			
290	1668	1636	1705	1646	1616	1460	1363	1603	1662		764	597			
280	1650	1579	1621	1567	1551	1377	1221	1466	1600		723	547			
270	1599	1486	1519	1469	1470	1275	1050	1271	1496		672	490			
260	1507	1370	1387	1355	1377	1163	834	1020	1362		608	424			
250	1387	1240	1230	1230	1268	1030	608	679	1143		523	346			
240	1247	1109	1080	1118	1143	884	310	389	794		430	271			
230	1117	960	901	986	1004	735	60.0	161	335		335	198			
220	960	827	744	854	867	594		71.4	71.4		240	143			
210	806	716	614	726	725	471					143	93.1			
200	679	618	519	608	597	374					40.2	60.0			
190	568	536	446	508	490	298						32.2			
180	466	463	389	423	402	240						40.2			
170	383	393	341	351	329	196									
160	320	327	296	295	273	163									
150	268	268	254	249	230	137									
140	210	221	213	210	197	116									
130	170	184	182	179	171	99.4									
120	157	161	161	159	150	90.8									
110	150	151	151	150	136	82.7									
100	143	127	112	112	97.2	12.4									

ELECTRON DENSITY

PUERTO RICO		60 W				15 JAN 1960					
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000 1100
QUAL	A	A	R								B
HMIN	224	233		234	253	228	229	238	110	110	109
SCAT	40.0	68.1		54.7	48.8	45.9	58.1	37.1	44.4	48.9	47.9
HMAX	315	401		367	357	336	370	310	268	281	288
SHMAX	287	344		294	278	281	311	300	856	1320	1447
KM											
410		355									
400		355									
390		353									
380		347					375				
370		337		382			375				
360		322		380	432		373				
350		305		373	430		364				
340		286		359	419	446	351				
330		259		339	399	444	331				
320	540	228		312	372	433	306	643			
310	538	196		279	331	410	276	643			
300	522	164		240	277	381	238	631			
290	488	132		191	213	335	202	597	1669		1786
280	438	103		143	143	273	165	540	1668		1773
270	362	79.6		103	80.0	206	127	446	1354	1649	1723
260	262	60.0		71.4	42.9	134	92.8	297	1342	1594	1630
250	150	46.0		51.2		83.8	63.5	143	1297	1499	1502
240	80.3	21.7		24.9		51.2	43.0	28.2	1214	1375	1341
230	40.2					12.4	3.6		1103	1227	1171
220									940	1096	992
210									734	907	807
200									508	716	643
190									286	552	508
180									161	417	398
170									118	310	321
160									95.7	240	262
150									83.4	203	224
140									79.0	181	203
130									74.6	127	192
120									67.2	118	184
110									12.4	71.4	127

ELECTRON DENSITY

PUERTO RICO		60 W				15 JAN 1960					
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200 2300
QUAL		A	A	S	A	A	A	A	A	A	
HMIN									228	231	238 208 220
SCAT									59.6	44.0	44.7 43.4 36.5
HMAX									353	332	310 307 316
SHMAX									740	552	510 399 341
KM											
360									928		
350									927		
340									917	939	896
330									894	938	896
320									856	922	885
310									806	881	852 679 639
300									744	816	800 674 614
290									662	727	716 652 563
280									563	608	592 612 490
270									459	454	446 553 402
260									355	286	267 477 310
250									248	143	106 377 192
240									143	60.0	25.6 255 104
230									28.2		143 53.3
220											71.4
210											21.2

ELECTRON DENSITY

PUERTO RICO		60 W				16 JAN 1960					
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000 1100
QUAL		A		F	F						
HMIN	206	228	220	209		195	244	257	109	110	109
SCAT	48.4	27.4	30.5	46.2		55.5	46.9	54.5	29.8	36.2	37.7 53.4
HMAX	305	283	284	286		319	344	346	267	261	264 292
SHMAX	350	165	118	132		126	105	308	810	1193	1381 1732
KM											
350								161	477		
340								160	475		
330								157	466		
320								161	150	449	
310	565							160	139	425	
300	563							156	125	393	
290	551	469	286	235				150	107	346	
280	527	467	284	234				140	86.7	272	
270	494	440	270	228				128	67.4	154	
260	440	383	240	216				114	49.6	40.2	
250	362	286	194	203				98.1	24.3		
240	270	127	127	184				81.7			
230	161	26.8	64.3	143				65.3			
220	83.8			83.8				51.2			
210	40.2			12.4				40.2			
200								12.4			
190											
180											
170											
160											
150											
140											
130											
120											
110											

ELECTRON DENSITY

PUERTO RICO		60 W				16 JAN 1960					
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200 2300
QUAL			S		A				A	A	A
HMIN	109	109	109	109	108	110	209	188	208	248	236 214
SCAT	53.8	59.1	61.1	61.2	54.9	58.9	52.1	38.5	43.2	44.7	56.1 50.9
HMAX	294	310	316	320	319	312	311	303	313	348	348 339
SHMAX	1600	1810	1775	1775	1687	1610	1108	679	455	440	441 378
KM											
350										726	608
340										720	604 524
330										698	591 520
320						1771				655	569 506
310										745	596 540 483
300	1846	1894	1756	1722	1809	1888	1593	1153	727	520	496 449
290	1843	1854	1706	1661	1738	1842	1544	1123	690	423	439 404
280	1813	1786	1627	1574	1636	1768	1466	1050	633	310	369 352
270	1752	1692	1531	1467	1508	1675	1355	946	557	179	286 291
260	1658	1570	1411	1341	1341	1555	1217	813	468	83.8	186 225
250	1535	1419	1270	1198	1185	1374	1050	665	362	22.3	93.4 161
240	1376	1240	1106	1050	1004	1183	853	508	246		40.2 104
230	1187	1050	960	893	834	960	608	335	143		63.9
220	1004	875	810	754	658	728	362	219	71.4		35.0
210	834	729	679	634	529	528	49.6	132	20.7		
200	669	608	573	535	423	382		76.2			
190	540	508	477	453	335	268		23.7			
180	437	427	405	380	278	198					
170	357	357	341	318	232	157					
160	295	299	290	267	193	127					
150	240	250	246	226	164	110					
140	200	204	205	194	142	98.1					
130	177	178	179	175	127	91.8					
120	166	168	168	165	119	86.0					
110	83.8	112	127	97.2	83.8						

ELECTRON DENSITY

	PUERTO RICO					60 W				17 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
QUAL	A	B	A				E						
HMIN		110	110	109	109	109	224	177	232	233	221	218	
SCAT		55.3	61.1	59.9	54.5	41.8	55.0	40.4	43.3	52.8	38.3		
HMAX		316	318	319	309	312	336	327	334	349	330		
SHMAX		1619	1659	1519	1165	689	815	516		473	504	402	
KM													
350											679		
340								1004			674	688	
330								1001	928	792	657	688	
320								983	920	773	627	676	
310		1669	1669	1528		1215		946	886	731	586	640	
300		1632	1631	1491	1332	1189		895	822	671	534	580	
290		1574	1579	1438	1301	1128		828	731	589	477	502	
280		1486	1500	1362	1246	1032		744	608	489	402	409	
270		1376	1406	1270	1169	900		650	461	362	317	315	
260		1240	1286	1160	1071	734		547	310	240	225	227	
250		1096	1143	1043	950	540		441	161	119	143	143	
240		938	1004	917	817	335	341	63.6	51.9	83.8	89.7		
230		794	844	794	686	143	240			46.8	53.8		
220		670	708	679	558		170				12.4		
210		573	594	564	446		115						
200		499	499	466	343		74.5						
190		442	417	389	262		48.5						
180		395	355	325	205		12.4						
170		351	304	274	161								
160		310	265	232	130								
150		269	236	196	110								
140		234	208	166	98.0								
130		203	182	145	92.5								
120		185	165	133	87.5								
110		49.6	40.2	97.2	71.4								

ELECTRON DENSITY

	PUERTO RICO					60 W					18 JAN 1960				
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300			
QUAL		A	S		A				A		F				
HMIN	110		111	109	109	109	209	186	220	235	282	241			
SCAT	56.1		61.1	62.9	70.5	56.6	55.8	54.2	50.4	49.5	63.4	43.6			
HMAX	327		329	336	354	337	321	325	343	358	410	330			
SHMAX	1882		1917	1918	1982	1800	1328	817	532	425	542	405			
KM															
420												661			
410												661			
400												657			
390												644			
380												624			
370												594			
360												559			
350						1727						603			
340						1786	1710	2096		774		513			
330	1907		1846	1781	1677	2087	1786	1027		772	557	385		735	
320	1899		1835	1757	1626	2046	1785	1024		765	517	299		735	
310	1863		1800	1709	1555	1972	1768	1006		691	463	194		695	
300	1796		1740	1632	1468	1863	1722	970		636	398	107		647	
290	1689		1654	1535	1364	1728	1645	917		557	328	53.5		573	
280	1563		1542	1422	1250	1555	1543	845		459	245			477	
270	1417		1408	1298	1149	1362	1411	760		342	165			310	
260	1264		1261	1153	1031	1107	1240	660		240	104			150	
250	1096		1120	1015	917	889	1059	550		152	62.8			644.7	
240	938		960	882	794	679	849	446		89.5	30.7				
230	794		834	761	679	508	608	354		49.6					
220	679		710	665	573	373	335	268							
210	588		614	582	477	279	494.6	187							
200	508		540	508	395	211		104							
190	446		471	446	326	161		44.7							
180	396		408	381	268	124									
170	346		344	326	224	101									
160	299		286	279	187	90.5									
150	260		246	240	158	83.2									
140	213		215	205	138	80.0									
130	177		193	180	125	76.8									
120	164		180	167	117	73.6									
110	40.2		83.8	71.4	49.										

ELECTRON DENSITY

	PUERTO RICO				60 W				19 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL	A											
HMIN	110	110	110	108	109	108	208	208	209	225	207	203
SCAT	65.0	56.4	63.2	63.5	59.4	61.4	54.4	47.8	36.6	36.1	37.5	57.6
HMAX	326	314	319	324	314	304	414	436	313	308	300	346
SHMAX	1861	1738	1686	1779	1589	1481	386	455	491	373	264	293
KM												
350												362
340								949				367
330	1786							945				359
320	1781	1846	1669	1725	1661		1167	922	896			377
310	1756	1843	1660	1707	1666	1669	1160	877	895	754	477	337
300	1707	1816	1632	1667	1644	1664	1137	814	871	751	477	318
290	1633	1759	1584	1606	1599	1639	1096	780	817	721	468	294
280	1548	1674	1504	1520	1526	1593	1042	626	733	667	441	264
270	1427	1555	1413	1416	1433	1521	967	508	608	573	397	228
260	1276	1413	1205	1290	1319	1435	866	389	477	458	344	187
250	1121	1251	1165	1143	1189	1327	744	262	335	319	281	148
240	967	1084	1026	1004	1050	1165	608	167	198	185	213	112
230	834	900	875	854	895	788	446	10	108	60.0	143	86.0
220	716	737	744	716	735	794	64	7.0	65.9		76.8	54.5
210	626	608	619	601	586	597	77.1	13.3	4.9		25.1	38.0
200	550	508	515	503	463	446						
190	487	434	426	424	373	338						
180	417	381	357	367	310	252						
170	362	339	310	319	262	190						
160	310	299	270	278	230	159						
150	268	267	224	240	202	134						
140	232	226	198	206	177	118						
130	197	196	176	180	158	107						
120	161	180	165	167	147	98.3						
110	60.0	12.4	40.2	97.3	42.6	40.2						

ELECTRON DENSITY

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ELECTRON DENSITY

PUERTO RICO										
60 W										
21 JAN 1960										
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900 1000 1100
QUAL	J									A A
HMIN	241	280	201	194	230	249	211	251	109	109 110
SCAT	41.9	47.5	45.0	33.4	77.5	54.3	59.4	53.5	38.4	54.4 71.5
HMAX	348	400	296	271	425	369	353	352	282	288 320
SHMAX	418	615	686	217	250	200	213	381	1170	1278 1905
KM										
430					219					
420					219					
410		875			217					
400		875			213					
390		864			209					
380		834			201					
370		782			191	262				
360		716			180	261	251	573		
350	697	643			167	255	251	573		
340	691	560			153	244	248	566		
330	662	467			138	229	242	548		
320	617	362			122	210	232	521		1786
310	550	240			106	186	221	485		1777
300	466	137	1240		91.4	159	203	439		1750
290	367	65.1	1234		78.5	131	181	366	2161	1528 1706
280	274		1201	484	67.0	102	157	255	2160	1519 1644
270	179		1136	484	56.7	74.3	131	137	2112	1485 1575
260	97.2		1050	470	47.8	47.8	105	60.0	1991	1424 1481
250	49.6		892	434	39.1	7.1	82.7		1810	1352 1357
240			643	377	20.0		63.4		1511	1240 1211
230			362	286			47.6		960	1096 1061
220			143	179			27.6		540	917 898
210			60.0	83.8					327	731 739
200				40.2					215	558 608
190									156	438 498
180									118	349 417
170									95.3	286 340
160									85.5	231 286
150									81.1	187 232
140									77.8	156 188
130									74.5	140 161
120									69.9	132 150
110									40.2	83.8 83.8

ELECTRON DENSITY

PUERTO RICO										
60 W										
21 JAN 1960										
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100 2200 2300
QUAL	A	A	A				A	A		
HMIN				110	109			189	187	261 249 229
SCAT				80.0	60.3			56.7	67.4	39.6 54.8 44.3
HMAX				373	349			323	348	357 372 336
SHMAX				2530	2433			1141	729	435 477 419
KM										
380				1969						625
370				1968						625
360				1955						774 617
350				1926	2465				784	768 599
340				1882	2453				781	738 570 688
330				1823	2406			1446	770	679 531 685
320				1745	2326			1445	750	608 481 665
310				1655	2207			1426	721	508 417 626
300				1555	2060			1385	683	398 356 573
290				1432	1881			1318	639	270 286 491
280				1304	1680			1240	580	143 219 389
270				1173	1470			1127	508	64.3 138 291
260				1050	1255			988	435	76.0 191
250				924	1022			834	357	12.4 104
240				805	834			679	286	55.2
230				698	679			524	213	5.8
220				608	558			362	150	
210				533	469			210	97.2	
200				465	397			97.2	60.0	
190				403	338			12.4	19.9	
180				350	286					
170				303	244					
160				262	209					
150				227	181					
140				198	159					
130				176	142					
120				161	132					
110				12.4	71.4					

ELECTRON DENSITY

PUERTO RICO										
60 W										
22 JAN 1960										
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900 1000 1100
QUAL									S	A
HMIN	223	229	228	204	235	238	258	261	109	110 111 113
SCAT	40.5	34.4	35.7	44.1	71.8	46.5	54.5	37.1	39.5	40.2 38.2 68.1
HMAX	324	301	305	308	417	352	378	326	272	284 272 316
SHMAX	351	257	218	193	317	205	191	231	793	1260 1406 2086
KM										
420					304					
410					303					
400					299					
390					293					
380					283		251			
370					270		250			
360					255	304	244			
350					238	304	232			
340					215	299	219			
330	616				191	287	200	500		
320	615				166	267	179	497		2096
310	598	582	454	310	141	240	152	477		2092
300	561	582	452	308	116	209	123	440		2068
290	508	568	435	298	93.8	173	95.3	379		2021
280	432	529	399	279	75.4	134	71.4	286	1316	1901 2227 1951
270	342	467	347	253	60.0	99.5	49.6	161	1315	1847 2225 1856
260	240	362	275	219	48.6	68.5	12.4		1288	1729 2174 1747
250	149	206	179	179	37.5	45.5			1217	1555 2046 1610
240	79.9	97.2	83.8	136	12.4	8.0			1114	1341 1839 1435
230	43.6	12.4	21.2	88.8					917	1073 1555 1240
220				56.7					694	794 1240 1004
210				27.3					486	586 943 780
200									335	434 667 622
190									235	324 477 502
180									172	257 362 408
170									132	209 294 335
160									108	172 240 286
150									94.6	145 201 238
140									87.2	127 168 198
130									79.6	119 153 175
120									71.4	108 143 162
110									40.2	12.4

ELECTRON DENSITY

	PUERTO RICO				60 W				22 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL		B		S					S			
HMIN	109	110	109		110	109	218	184	209	248	198	192
SCAT	61.4	52.5	67.0		55.8	61.6	52.7	58.8	60.7	45.0	49.0	50.8
HMAX	312	322	338		324	330	313	333	377	366	317	327
SHMAX	1848	1819	2300		1990	1977	1189	1029	890	703	586	456
KM												
380									1050			
370									1046	1119		
360									1030	1114		
350									998	1084		
340			2161						953	1027		
330		1907	2154		2177	2063		1240	894	942		616
320	1801	1906	2123		2174	2051	1786	1225	819	816	875	614
310	1800	1883	2069		2141	2011	1784	1193	726	679	871	600
300	1783	1825	1990		2074	1944	1759	1143	617	517	849	573
290	1742	1726	1886		1964	1845	1702	1078	498	362	809	538
280	1678	1598	1759		1825	1726	1611	986	382	219	754	486
270	1585	1446	1607		1669	1579	1497	875	262	112	674	423
260	1471	1268	1446		1473	1409	1341	754	179	60.0	573	357
250	1341	1109	1277		1273	1240	1129	622	122	12.4	459	286
240	1209	949	1082		1060	1050	852	488	83.8		328	219
230	1084	816	903		875	875	508	362	60.0		204	154
220	949	698	744		716	693	97.2	255	41.7		104	100
210	819	608	617		573	540		168	4.5		57.1	65.8
200	698	535	508		463	425		101			12.4	41.4
190	585	471	434		373	328		60.0				
180	485	410	371		305	252						
170	404	353	322		252	198						
160	343	303	280		211	161						
150	293	259	240		177	137						
140	251	219	205		153	119						
130	215	196	179		139	107						
120	190	183	167		130	98.3						
110	143	49.6	83.8		49.6	49.6						

ELECTRON DENSITY

ELECTRON DENSITY

PUERTO RICO											
60 W											
23 JAN 1960											
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000
QUAL											
HMIN	245	240	219	221	237	239	192	220	110	109	109
SCAT	40.6	38.5	38.0	44.7	52.7	53.8	55.1	43.0	42.2	43.6	43.6
HMAX	350	334	308	323	368	358	310	305	262	279	275
SHMAX	352	347	309	271	311	320	267	255	769	1281	1437
KM											
370					410						
360	599				408	439					
350	599				398	437					
340	591	652			380	427					
330	564	650		439	357	408					
320	520	629		439	325	385	362				
310	457	588	599	430	286	351	362	461			
300	377	523	593	409	240	310	359	460			
290	294	429	566	380	196	256	350	448			
280	210	317	520	338	152	193	335	424			
270	127	209	452	286	109	143	316	489	1907	2032	1669
260	71.4	107	350	219	71.4	91.8	290	335	1252	1821	1974
250	34.0	54.8	240	156	48.2	53.0	254	262	1229	1706	1868
240			137	92.4	12.4	6.1	207	161	1171	1543	1711
230			60.0	49.6			158	77.5	1043	1290	1500
220			4.5				109		940	1032	1240
210							71.4		733	716	989
200							43.7		508	508	754
190									335	378	548
180									219	286	424
170									155	224	339
160									122	179	275
150									104	146	223
140									94.0	126	179
130									87.6	121	159
120									76.8	115	150
110										60.0	112

PUERTO RICO											
60 W											
23 JAN 1960											
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
QUAL											
HMIN	109	109	109	110	109	109	109	192	197	214	203
SCAT	57.5	76.0	74.2	65.6	74.9	64.9	58.8	54.7	56.5	47.3	60.0
HMAX	296	331	346	349	380	345	348	314	345	314	324
SHMAX	1477	1880	2004	1846	1590	1967	1532	111	7.5	631	444
KM											
360					1771						
350					1669	1768	1969	1969	1143		454
340					1597	1666	1683	1751	1959	1961	1140
330					1597	1650	1675	1719	1927	1925	1122
320					1589	1620	1648	1672	1871	1861	1558
310					1568	1574	1601	1609	1792	1767	1458
300	1555	1532	1509	1531	1528	1686	1650	1659	1660	1014	533
290	1552	1482	1438	1446	1434	1555	1499	1479	1608	969	512
280	1526	1416	1467	1341	1317	1414	1313	1401	766	205	483
270	1478	1341	1240	1318	1204	1240	1096	1198	643	805	445
260	1399	1240	1119	1087	1088	1076	954	1171	750	659	396
250	1300	1143	1004	960	960	904	573	1004	397	494	340
240	1184	1031	884	828	845	714	310	807	246	310	278
230	1050	917	774	716	712	563	49.6	77	147	133	212
220	908	801	679	614	631	443		335	112	53	137
210	771	687	593	532	540	357		154	65.5		60.0
200	656	582	521	467	440	286		66.0	19.9		
190	566	494	455	414	394	224					
180	484	421	393	362	335	182					
170	409	362	335	315	286	148					
160	344	310	282	269	246	122					
150	292	271	238	227	211	104					
140	253	235	204	195	183	94.0					
130	219	198	178	175	161	90.7					
120	189	181	166	163	148	86.5					
110	97.2	83.8	82.4	80.4	71.4	49.6					

ELECTRON DENSITY

ELECTRON DENSITY

PUERTO RICO											
60 W											
24 JAN 1960											
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000
QUAL											
HMIN	257	229	239	196	247	214	197	249	111	110	109
SCAT	41.4	39.5	36.5	72.2	51.4	66.6	57.0	37.5	54.7	45.5	50.7
HMAX	357	330	322	373	368	359	335	319	295	289	291
SHMAX	285	282	231	397	288	327	243	254	1131	1611	2044
KM											
380					389						
370					389	403					
360	484				386	401	362				
350	481				379	391	360				
340	464	508			369	372	354	298			
330	431	508	454		355	349	345	297			
320	386	500	453	339	316	330	293	524			
310	330	475	441	317	273	314	283	516			
300	262	435	410	291	225	293	269	490	1420	2571	2294
290	192	376	365	260	174	265	251	446	1417	2294	2571
280	122	299	301	227	127	231	229	380	1394	2269	2539
270	63.0	208	225	191	83.8	194	202	286	1348	2189	2458
260	19.6	127	143	156	49.6	157	170	179	1277	2054	2322
250		80.6	71.4	125	12.4	119	138	40.2	1187	1862	2146
240		48.4	12.4			83.8	109		1068	1606	1907
230		6.9				75.3			899	1302	1648
220						56.1	82.6		704	931	1367
210						27.3	60.0		525	679	1065
200						41.8			389	508	812
190						12.4			274	373	596
180									205	291	437
170									158	236	347
160									127	197	286
150									108	167	243
140									96.2	147	210
130									90.1	137	184
120									83.8	129	166
110										12.4	97.2

PUERTO RICO						60 W				24 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
QUAL	A		A	A	A		A				F		
HMIN	109					110		190	188	243	222	229	
SCAT	59.5					58.4		60.5	60.4	56.2	49.2	50.0	
HMAX	316					336		329	351	367	352	341	
SHMAX	2049					2231		1307	970	795	761	601	
KM													
370										1050			
360									1096	1046	1050		
350									1096	1026	1049	896	
340						2448			1086	990	1034	896	
330						2442		1542	1062	937	996	885	
320	2032					2402		1534	1019	869	936	857	
310	2027					2327		1505	964	781	862	808	
300	1995					2206		1455	900	679	777	744	
290	1935					2058		1384	825	552	679	663	
280	1839					1887		1289	740	417	564	557	
270	1721					1693		1177	643	262	434	430	
260	1579					1477		1050	540	143	296	286	
250	1423					1257		893	424	60.0	172	153	
240	1259					1004		736	310		93.3	71.4	
230	1096					754		573	219		47.7	12.4	
220	944					552		429	143				
210	809					429		303	86.3				
200	699					335		161	51.7				
190	600					267		12.4	12.4				
180	508					216							
170	424					179							
160	356					152							
150	304					130							
140	266					115							
130	219					106							
120	191					99.4							
110	127					12.4							

ELECTRON DENSITY

	PUERTO RICO					60 W				25 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
DUAL						A							
HMIN	109	109	110	110	110	109	219	191	208	228	217	207	
SCAT	82.1	66.1	76.8	81.3	74.3	63.9	56.7	59.2	58.3	45.0	58.2	44.0	
HMAX	328	336	346	366	359	340	336	323	339	346	343	328	
SHMAX	2043	2019	2338	2589	2394	2110	1504	1202	754	594	731	533	
KM													
370				1984									
360				1981									
350				1984									
340				1981									
330	1669	1782	1917	1886	1955	2147	2058	1528	976	910	949	834	
320	1665	1761	1883	1824	1893	2106	2023	1526	955	860	924	828	
310	1649	1719	1833	1743	1812	2039	1955	1508	920	794	885	802	
300	1621	1654	1762	1652	1708	1939	1855	1468	871	697	834	754	
290	1581	1569	1674	1543	1592	1821	1731	1403	806	582	760	686	
280	1528	1465	1577	1427	1459	1679	1555	1328	716	466	664	597	
270	1463	1341	1465	1302	1307	1518	1341	1219	608	310	553	492	
260	1382	1219	1341	1184	1156	1341	1050	1084	477	172	431	379	
250	1288	1096	1200	1064	1004	1126	733	917	351	97.2	298	262	
240	1188	969	1050	942	857	939	417	726	219	56.0	179	161	
230	1080	852	917	834	738	754	127	540	120	12.4	83.8	93.2	
220	960	747	794	732	637	573	12.4	310	62.9		310	561.0	
210	848	558	686	643	547	427		161	12.4			18.3	
200	734	580	587	558	470	328	64.6						
190	630	512	503	481	404	255							
180	540	446	436	411	343	201							
170	446	389	374	348	286	164							
160	356	335	322	295	240	137							
150	296	286	278	252	202	121							
140	246	245	240	219	173	110							
130	208	202	215	195	157	105							
120	189	187	201	182	148	102							
110	127	97.2	49.6	49.6	40.2	49.6							

ELECTRON DENSITY

	PUERTO RICO				60 W				26 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
OUAL		A		S	A		A	A		A	A	
HMIN	108	108			110	109	109		235			206
SCAT	70.8	61.6			75.7	76.5	59.5		65.1			73.8
HMAX	327	320			361	364	343		378			374
SHMAX	2029	1855			2202	2312	1942		1006			546
KM												
380									1143			540
370					1786	1907						540
360					1786	1905			1122			535
350					1777	1891	2080		1091			525
340					1753	1860	2079		1050			511
330	1786	1786			1713	1812	2057		990			491
320	1781	1786			1655	1749	2005		917			466
310	1760	1774			1581	1669	1924		834			437
300	1721	1739			1496	1573	1806		737			403
290	1664	1680			1396	1462	1669		628			362
280	1590	1590			1278	1332	1508		508			316
270	1500	1485			1135	1200	1341		362			266
260	1388	1362			1004	1071	1126		232			214
250	1259	1240			885	931	917		112			161
240	1143	1086			782	794	733		45.6			115
230	1017	954			696	679	573					76.7
220	893	834			624	582	454					49.6
210	771	716			562	496	356					17.4
200	656	614			508	426	278					
190	554	524			446	367	219					
180	477	443			381	310	165					
170	409	374			319	262	138					
160	347	316			266	226	123					
150	286	266			223	195	114					
140	240	221			189	170	108					
130	207	188			172	155	103					
120	190	172			161	145	98.6					
110	161	161			12.4	49.6	40.2					

ELECTRON DENSITY

PUERTO RICO 60 W 27 JAN 1964											
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000 1100
QUAL			A		A						
HMIN	268	230	251	214	203	237	218	226	114	110	109
SCAT	49.5	70.5	47.3	41.7	67.5	52.5	48.5	41.0	36.3	42.5	54.7 60.0
HMAX	383	395	355	300	328	366	328	426	267	289	298 307
SHMAX	361	515	371	271	262	264	238	334	720	1424	2004 1910
KM											
400		540									
390	524	539									
380	523	534									
370	514	523			348						
360	495	506	582		347						
350	464	485	580		340						
340	425	459	568		325						
330	372	424	543		304	307	355	548			
320	310	380	505		303	281	352	546			
310	243	328	452	492	298	248	442	530			
300	179	270	389	492	290	211	323	498			
290	106	213	304	485	279	173	299	453	2000	2383	1930
280	60.0	161	213	464	265	138	266	394	1978	2331	1870
270	12.4	118	112	429	247	103	225	326	1315	1899	2240 1786
260		83.8	60.0	380	227	71.4	179	250	1203	1754	2108 1669
250		58.4		310	201	46.7	127	171	1143	1577	1941 1527
240		40.3		225	165	12.4	81.8	97.1	1050	1364	1722 1359
230				122	121		49.6	40.1	891	1064	1484 1192
220				49.6	76.2		1.4		716	834	1194 1026
210					41.8				540	657	900 858
200									362	508	679 716
190									249	398	508 594
180									176	320	403 488
170									134	258	332 407
160									109	211	281 341
150									95.7	175	240 286
140									91.2	150	203 246
130									86.4	137	177 213
120									71.4	129	165 191
110										12.4	49.6 143

ELECTRON DENSITY

PUERTO RICO						60 W		27 JAN 1964				
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL			A									
HMIN	107		109	108	109		100	108	1	317	276	143
SCAT	65.6		66.1	68.7	73.4		54.7	67.4	6.5	50.4	43.9	52.8
HMAX	327		343	342	350		429	364	379	401	329	312
SHMAX	2038		2020	1967	2126		1300	1079	111	813	724	631
KM												
410											1044	
400											1084	
390											1073	
380											949	1046
370										1143	943	1001
360					1861					1142	922	941
350			1771	1786	1861					1131	880	860
340			1770	1785	1853					1106	829	754
330	1801		1755	1769	1835		14.0	1069	768	643	1261	
320	1795		1719	1732	1781		1411	1017	899	508	1251	700
310	1777		1666	1669	1710		1477	953	612	346	106	906
300	1730		1575	1581	1639		1314	875	40	179	1127	395
290	1669		1479	1477	1542		1131	787	460	1016	868	
280	1586		1371	1358	1411		1117	687	374	3.4	846	823
270	1488		1248	1228	1307		987	586	177		643	764
260	1374		1133	1079	1160		944	489	179		389	689
250	1256		1004	948	1017		779	394	115		172	594
240	1125		885	826	875		666	301	71.4		71.4	477
230	992		781	716	741		466	208	44.4		47.4	320
220	868		694	628	630		13.4	127				161
210	754		618	550	537							77.9
200	655		552	485	446							21.7
190	560		490	428	367							
180	477		421	378	300							
170	407		358	333	246							
160	346		305	290	204							
150	295		258	250	173							
140	252		219	213	151							
130	215		196	183	139							
120	193		184	169	132							
110	179		49.6	143	71.4							

ELECTRON DENSITY

PUERTO RICO						60 W		28 JAN 1960				
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100
QUAL							F				A	A
HMIN	205	219	199	208	240	280	263	268	109	109	108	
SCAT	44.3	47.2	49.4	85.7	92.8	67.5	66.3	48.3	54.0	44.2	50.4	
HMAX	305	309	300	359	400	419	399	347	300	290	301	
SHMAX	362	248	172	248	221	169	246	300	1183	1557	1898	
KM												
420						184						
410					189	183						
400					189	180	274					
390					188	174	273					
380					186	167	268					
370					184	161	261					
360					180	149	250					
350					229	175	136	236	508			
340					226	169	121	220	506			
330					223	163	105	200	493			
320					217	156	87.5	176	469			
310	599	410	257	210	147	69.6	148	437	1500		2361	
300	597	407	257	203	135	51.1	119	389	1500	2177	2361	
290	583	394	254	194	121	32.6	91.5	326	1489	2177	2332	
280	552	373	246	183	105		64.9	230	1453	2147	2256	
270	508	345	232	168	87.3		41.6	97.2	1392	2061	2131	
260	446	300	215	149	67.6				1303	1915	1964	
250	372	240	191	127	46.9				1196	1716	1748	
240	286	168	161	103					1050	1488	1479	
230	179	88.6	129	77.4					851	1218	1203	
220	90.1	12.4	94.1	51.5					643	917	960	
210	42.9		60.0	12.4					446	679	736	
200			4.5						310	500	573	
190									222	379	452	
180									168	301	366	
170									132	243	300	
160									109	198	245	
150									96.7	170	198	
140									92.0	149	169	
130									87.4	137	156	
120									78.1	129	148	
110									40.2	83.8	119	

ELECTRON DENSITY

	PUERTO RICO				60 W				28 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL								B			S	
HMIN	109	109	108	109	108	109		124	210	229		191
SCAT	72.5	67.7	79.7	80.9	80.1	61.1		50.1	58.7	4.0		57.8
HMAX	333	341	355	355	347	336		328	346	352		338
SHMAX	2219	2057	2297	2185	1819	1410		1098	761	623		431
KM												
360			1786	1683						896		
350		1786	1784	1681	1446					896		
340	1907	1786	1770	1668	1444	1316			936	883	524	
330	1906	1775	1741	1642	1430	1312			922	847		521
320	1892	1744	1699	1603	1406	1293		1215	891	798		511
310	1860	1695	1638	1551	1370	1258		1187	851	733		493
300	1811	1620	1568	1484	1318	1201		1146	794	643		467
290	1740	1533	1483	1408	1255	1135		1087	725	540		434
280	1661	1478	1387	1317	1187	1050		1010	643	435		392
270	1555	1297	1278	1219	1112	960		917	540	327		344
260	1429	1143	1159	1119	1021	875		812	446	219		189
250	1298	1017	1041	1011	928	779		695	342	122		229
240	1151	892	927	903	834	686		582	232	58.1		172
230	1014	779	826	804	748	594		477	135	4.5		122
220	887	689	736	716	658	508		375	63.9			85.7
210	778	616	651	637	573	434		286				58.9
200	679	556	573	557	493	362		214				40.2
190	585	502	495	477	417	302		161				
180	498	450	428	409	352	250		127				
170	423	400	377	351	298	206		101				
160	362	349	326	301	254	174		83.8				
150	313	303	286	260	219	150		70.7				
140	273	262	254	228	190	134		64.6				
130	236	227	224	203	167	112		49.6				
120	209	207	204	185	152	93.3						
110	143	127	143	97.2	112	60.0						

ELECTRON DENSITY

PUERTO RICO		60 W										29 JAN 1960	
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
QUAL	S	F	F	F	F	J							
HMIN		207		216		227	234	238	109	110	109	109	
SCAT		54.8		42.7		65.9	62.5	40.0	55.5	44.8	48.0	60.0	
HMAX		350		314		389	367	329	305	300	298	315	
SHMAX		332		245		241	242	333	1236	1692	1909	2144	
KM													
390						251							
380						250							
370						246	286						
360		417				239	285						
350		417				229	281						
340		413				217	273						
330		403				201	261	616					
320		384	403			183	245	608				2227	
310		362	402			161	226	581	1555	2310		2222	
300		328	392			140	204	536	1552	2310	2430	2190	
290		291	370			118	179	469	1526	2279	2414	2128	
280		250	335			97.2	147	374	1476	2191	2346	2032	
270		198	294			78.9	112	270	1400	2048	2220	1907	
260		152	245			62.1	81.3	143	1304	1842	2050	1754	
250		114	192			48.9	54.6	74.6	1170	1579	1825	1555	
240		83.8	137			34.3	26.8	21.2	989	1293	1555	1361	
230		60.0	83.8			6.9			754	990	1272	1143	
220		43.9	40.2						540	754	977	960	
210		12.4							389	573	754	794	
200									276	439	608	657	
190									205	352	494	546	
180									156	291	410	458	
170									124	240	339	382	
160									103	198	282	317	
150									94.4	168	235	262	
140									90.2	147	198	225	
130									85.9	137	177	200	
120									76.6	130	167	187	
110									12.4	12.4	97.2	112	

ELECTRON DENSITY

PUERTO RICO		60 W										29 JAN 1960	
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
QUAL	A	A	A										
HMIN	107		115	109	108	110	199	189	204		228	201	
SCAT	58.0		74.6	73.9	73.7	69.9	74.6	62.9	64.9		44.4	47.2	
HMAX	318		346	355	351	344	359	351	384		345	315	
SHMAX	1889		2094	2063	2005	1743	1556	1110	828		661	551	
KM													
390													
380													
370													
360				1640	1669		1583	1215	846				
350				1727	1638	1669	1612	1578	1215	814		1050	
340				1723	1624	1660	1610	1559	1206	774		1047	
330				1706	1595	1636	1596	1525	1182	725		1021	
320	1907			1672	1549	1597	1565	1478	1143	663		968	834
310	1899			1623	1485	1540	1517	1412	1087	592		890	831
300	1863			1555	1413	1468	1454	1336	1017	515		785	812
290	1799			1474	1325	1382	1372	1247	932	437		658	774
280	1700			1379	1224	1283	1280	1143	834	362		508	721
270	1583			1271	1123	1182	1163	1021	740	286		362	643
260	1437			1143	1016	1074	1050	875	635	219		219	550
250	1265			1023	912	960	926	716	528	161		121	446
240	1113			904	813	847	800	522	417	112		63.2	335
230	960			799	724	740	673	310	310	77.6		12.4	219
220	821			710	643	643	540	161	191	52.2		112	
210	708			634	580	552	436	75.8	108	26.0			
200	608			565	520	477	346	12.4	57.7				
190	518			498	463	402	277		4.5				
180	446			432	406	342	219						
170	381			372	354	291	179						
160	324			322	308	249	148						
150	269			280	270	215	125						
140	222			243	237	188	110						
130	198			213	209	165	105						
120	187			161	189	151	99.6						
110	143												

ELECTRON DENSITY

PUERTO RICO		60 W										30 JAN 1960	
TIME	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	
QUAL													
HMIN	201	229	219	204	198	246	227	218	111	110	111	110	
SCAT	52.2	38.4	38.9	35.6	68.4	53.5	49.5	49.9	48.6	43.3	39.8	52.5	
HMAX	324	319	303	274	336	383	349	319	287	294	289	298	
SHMAX	448	318	319	197	262	226	224	360	959	1545	1738	2123	
KM													
390						286							
380						286							
370						282							
360						273							
350						259	310						
340						286	240	307					
330	625					285	215	298					
320	624	608				282	189	283	565				
310	614	600	625			276	161	262	561				
300	590	571	624			266	132	233	545				
290	559	524	608			252	103	202	518	1290	2156	2571	2573
280	514	446	573	439		237	79.8	168	481	1283	2104	2541	2512
270	452	350	518	438		219	60.0	134	427	1249	1989	2430	2401
260	380	240	431	422	198	43.2	100	356	1188	1826	2234	2253	
250	303	135	310	391	174	12.4	69.1	253	1101	1601	1969	2044	
240	224	64.0	179	339	146		47.0	151	982	1341	1649	1766	
230	143	12.4	83.8	254	115		12.4	75.9	834	1036	1297	1446	
220	83.8		12.4	127	83.8			21.2	679	794	960	1143	
210	47.2			49.6	51.6				520	594	716	891	
200					12.4				376	462	554	690	
190									269	366	442	548	
180									191	301	362	451	
170									138	250	303	381	
160									110	209	255	323	
150									96.3	177	216	274	
140									91.4	154	189	235	
130									86.5	140	173	204	
120									75.9	130	162	187	
110										49.6		97.2	

ELECTRON DENSITY

	PUERTO RICO				60 W				30 JAN 1960			
TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
QUAL			S									
HMIN	112	110	110	109	110	109	204	198	208	244	246	207
SCAT	63.8	59.8	68.6	67.6	68.8	68.6	55.5	44.3	51.0	54.5	37.5	33.8
HMAX	320	324	334	332	334	344	341	331	341	387	338	295
SHMAX	2176	2094	2183	1839	1718	1714	1173	838	735	756	611	506
KM												
390										982		
380										979		
370										959		
360										924		
350						1583	1528		1016	870		
340			1969	1669	1528	1582	1528	1215	1016	802	1167	
330	2128	2048	1967	1668	1526	1566	1512	1215	1004	716	1153	
320	2128	2046	1948	1656	1512	1533	1472	1195	973	616	1096	
310	2115	2021	1908	1626	1481	1484	1399	1143	922	502	1004	
300	2077	1968	1847	1578	1429	1414	1308	1060	851	380	866	1050
290	2012	1883	1762	1502	1356	1331	1197	951	761	273	679	1043
280	1921	1770	1656	1414	1272	1229	1067	834	654	179	489	993
270	1799	1631	1534	1316	1185	1119	917	701	540	109	286	898
260	1656	1481	1395	1200	1066	993	716	573	417	65.3	127	767
250	1496	1318	1240	1077	987	865	508	438	286	36.8	444.3	596
240	1325	1163	1086	960	883	742	335	310	174			389
230	1143	989	933	834	770	619	188	198	101			198
220	960	845	801	725	679	519	97.2	117	57.5			92.8
210	807	716	679	624	593	432	45.7	60.0	12.4			40.2
200	679	622	584	530	508	356						
190	560	534	502	446	424	298						
180	470	458	432	379	351	249						
170	399	395	374	321	286	207						
160	343	346	326	270	240	173						
150	296	306	286	227	203	143						
140	253	271	253	193	174	125						
130	218	235	223	175	156	116						
120	199	207	202	166	143	101						
110	49.6	60.0	112	49.6	60.0							

ELECTRON DENSITY

31 JAN 1960

31 JAN 1960

TIME 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

O'JAL	A	A	A	A	A	A	A
HWIN	109		111				
SCAT	57.5		67.0			197	217
HMAX	317		344			52.0	58.1
SHMAX	1965		2053			347	369
Y.M						903	766
390							269
380							239
370							228
360							50.7
350		1786					336
340		1784					610
330		1766					
320	2032	1728					
310	2025	1669					
300	1989	1578					
290	1923	1478					
280	1815	1371					
270	1686	1254					
260	1540	1143					
250	1375	1022					
240	1208	899					
230	1050	794					
220	886	692					
210	733	608					
200	608	532					
190	503	463					
180	412	401					
170	343	344					
160	294	295					
150	250	255					
140	214	223					
130	196	196					
120	186	179					
110	112						

AVERAGE ELECTRON DENSITY										KP BELOW 4.5									
PUERTO RICO										JAN 1960									
60 W										60 W									
TIME										TIME									
COUNT										COUNT									
HWIN										HWIN									
RATIO										RATIO									
SCAT										SCAT									
NMAX										NMAX									
HMAX										HMAX									
SHMAX										SHMAX									
SHINF										SHINF									
KM										KM									
28	28	27	24	23	25	25	25	27	28	24	22	24.3	23.5	21.2	35.3	74.7	113	127	116
29	28	27	214	210	232	226	214	228	110	110	109	109	110	109	110	110	110	110	110
5.7	6.5	6.6	5.5	4.4	4.7	4.6	6.1	5.4	5.2	5.2	5.0	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
44.3	40.6	39.4	48.9	62.6	56.4	57.4	43.3	42.9	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8	42.8
552	542	476	317	269	280	267	510	1305	1914	2174	1841								
332	319	297	315	371	356	342	316	277	283	280	295								
334	295	242	204	226	216	209	284	859	1320	1542	1637								
1890	1823	1584	1098	984	1007	961	1724	4542	6719	7674	6830								
41.5	38.9	30.2	22.2	24.3	23.5	21.2	35.3	74.7	113	127	116								
53.2	49.8	38.7	28.5	31.2	30.2	27.2	45.2	95.9	145	163	149								
68.2	63.9	49.6	36.6	40.0	38.7	34.8	58.0	123	186	209	190								
87.4	81.9	63.6	46.9	51.2	49.6	44.6	74.3	158	238	268	244								
112	105	81.6	60.1	65.4	63.4	57.1	95.2	202	305	343	313								
143	134	104	76.7	83.4	80.8	72.9	122	259	391	439	400								
182	171	133	97.8	106	103	92.7	155	331	499	561	511								
230	216	169	124	133	130	117	197	421	636	715	650								
289	271	214	156	165	162	146	248	534	805	905	821								
357	335	267	193	200	198	180	309	670	1010	1137	1027								
490	371	349	279	201	207	205	187	322	701	1056	1188	1072							
386	363	291	209	213	213	194	335	732	1102	1240	1119								
401	377	303	217	220	220	201	349	784	1150	1295	1166								
460	415	391	315	226	227	208	362	797	1199	1350	1214								
450	430	405	328	234	234	215	376	831	1250	1407	1263								
444	419	341	242	239	241	222	390	865	1300	1464	1313								
459	433	353	251	244	248	229	404	900	1352	1523	1363								
472	446	366	259	249	254	235	417	935	1404	1641	1413								
485	459	379	266	253	259	241	431	970	1456	1641	1462								
497	471	391	274	256	264	246	443	1006	1508	1700	1511								
509	482	403	281	258	268	251	456	1041	1559	1758	1559								
518	492	415	287	259	271	255	467	1075	1609	1815	1605								
526	499	426	292	258	273	258	477	1109	1658	1871	1648								
532	504	436	297	255	273	259	487	1142	1704	1924	1689								
535	508	445	300	250	270	260	494	1173	1748	1974	1726								
533	510	453	301	242	265	258	501	1201	1788	2021	1759								
525	509	459	301	242	265	258	504	1227	1824	2063	1787								
510	503	462	298	217	242	246	504	1250	1854	2099	1808								
485	491	463	292	199	226	235	498	1270	1879	2128	1822								
452	472	459	283	178	205	220	485	1284	1896	2150	1826								
406	443	448	269	155	182	202	458	1293	1904	2161	1814								
352	401	429	250	131	134	180	415	1292	1891	2152	1781								
287	345	398	228	107	128	155	354	1276	1841	2111	1722								
220	271	354	203	85.2	102	128	354	1276	1841	2111	1722								
290	406	443	448	269	155	182	458	1293	1904	2161	1814								
280	352	401	429	250	131	134	415	1292	1891	2152	1781								
270	287	345	398	228	107	128	354	1276	1841	2111	1722								
260	220	271	354	203	85.2	102	128	354	1276	1841	2111	1722							
250	156	187	290	174	63.3	74.7	102	187	1169	1605	1885	1519							
240	98.7	109	209	141	43.6	52.2	79.6	105	1058	1412	1686	1373							
230	55.9	50.2	126	102	28.4	33.6	56.4	47.3	901	1179	1440	1207							
220	27.0	17.5	60.5	63.2	18.2	20.2	38.1	16.7	708	920	1156	1030							
210	9.8	4.7	23.9	30.3	10.1	10.5	23.1	8.5	520	688	892	850							
200	1.0		6.0	11.1	2.2	3.0	10.8	2.1	365	506	661	691							
190									255	378	448	448							
180									185	294	378	448							
170									141	235	306	367							
160									115	191	254	304							
150									99.3	160	212	254							
140									90.8	140	181	213							
130									84.7	128	162	184							
120									75.6	120	151	169							
110									20.4	51.8	83.8	94.8							

TABLES OF IONOSPHERIC DATA

FEBRUARY 1960-JULY 1957

Table 1
Point Barrow, Alaska (71.3°N, 156.8°W)
February 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(4.4) 8					4.5	----
01		(3.5) 7					4.5	(2.65)
02		(3.4) 3					5.3	----
03		(5.0) 3					4.4	----
04		(3.65) 2					4.4	----
05		---					3.6	----
06		(4.4) 3					3.6	----
07		(3.9) 4					4.2	----
08		(4.5) 8					4.0	(2.40)
09		(5.3) 16					3.3	(2.60)
10		5.9 21					2.72	
11		6.5 20					2.3	2.75
12		7.2 20						2.70
13		7.7 24						2.70
14		8.05 26						2.70
15		8.8 27						2.80
16		8.9 27						2.80
17		8.2 26						2.70
18		6.75 24						2.75
19		4.9 20					2.4	2.65
20		(4.2) 15					3.1	2.60
21		(3.6) 12					3.3	(2.65)
22		(4.0) 7					3.6	(2.65)
23		(3.8) 1					6.0	----

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 2
Anchorage, Alaska (61.2°N, 149.9°W)
February 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(2.7) 21					1.9	(2.62)
01		(2.7) 22					2.3	(2.60)
02		2.45 18					3.0	2.50
03		(2.3) 20					2.0	2.50
04		(2.3) 10					2.8	(2.50)
05		(2.5) 19						(2.50)
06		(2.5) 21						(2.45)
07		(3.85) 22			122	(1.50)		(2.60)
08		(4.8) 27			118	(2.00)		(2.90)
09		6.0 28			115	2.20		3.10
10		7.2 27			115	2.65		3.10
11		8.15 28			115	2.75		3.05
12		8.95 28			117	2.75		3.05
13		9.2 29			116	2.75		3.05
14		9.8 28			121	2.60		3.05
15		10.4 28			123	2.40		3.10
16		10.15 28			(126)	2.10		3.12
17		9.4 27			135	1.65		3.15
18		8.0 27			---	----		3.10
19		6.0 27						3.10
20		4.5 26						3.10
21		3.7 25						3.00
22		(3.2) 26						(2.90)
23		>2.35 22						(2.85)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 3
Ft. Monmouth, New Jersey (40.4°N, 74.1°W)
February 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6 28	260					2.85
01		5.55 26	265					2.80
02		5.25 28	265					2.75
03		4.9 28	270					2.80
04		4.9 29	260					2.85
05		4.65 28	255					2.85
06		4.4 27	250					2.95
07		6.0 29	235		---	----		3.15
08		9.0 29	225		115	2.50		3.30
09		10.0 28	220		110	3.00		3.20
10		11.0 29	210		110	3.30		3.15
11		(250) 11.7 29	210		110	3.50		3.05
12		(260) 12.25 28	215		110	3.50		3.05
13		(260) 12.2 28	215		112	3.48		3.00
14		12.2 28	220		110	3.32		3.00
15		12.2 29	225		110	3.05		3.00
16		11.8 39	230		112	2.65		3.05
17		11.5 39	225		(125)	----		3.05
18		10.4 29	220					3.05
19		9.2 29	220					3.05
20		8.0 39	220					3.00
21		7.0 29	235					2.95
22		6.4 29	240					2.95
23		5.95 28	<250					2.90

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 4
Boulder, Colorado (40.0°N, 105.3°W)
February 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.35 26	260					2.78
01		4.0 26	270					2.75
02		4.0 26	275					2.75
03		4.05 26	280					2.75
04		3.9 26	27*					2.80
05		3.8 25	260					2.75
06		3.7 26	270					2.80
07		3.7 26	240		<142	1.33		3.05
08		8.9 26	220		107	2.40		3.35
09		10.0 27	215		105	2.90		3.25
10		11.0 27	210		105	3.20		3.10
11		12.2 27	210		103	3.40		3.10
12		(250) 12.8 25	210		105	3.50		3.05
13		(260) 12.8 27	210		103	3.50		3.00
14		(245) 12.6 25	215		103	3.35		3.00
15		12.35 22	220		103	3.10		3.00
16		12.0 25	220		105	2.70	2.0	3.00
17		11.6 27	220		<115	2.10	2.1	3.10
18		10.2 27	205					3.10
19		8.8 27	205					3.10
20		6.7 27	210					3.10
21		5.8 25	220					3.10
22		4.8 25	235					3.00
23		4.4 26	250					2.90

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 5
Washington, D. C. (38.7°N, 77.1°W)
February 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.6 29	265					2.80
01		5.45 28	270					2.80
02		5.2 29	270					2.80
03		4.9 29	265					2.85
04		4.9 27	260					2.90
05		4.5 29	250					2.90
06		4.3 27	250					3.00
07		5.65 28	250		<147	1.75		3.15
08		8.5 28	230		113	2.40		3.35
09		10.1 29	230		109	2.95		3.20
10		10.7 29	220		109	3.20		3.10
11		11.5 29	220		109	3.35		3.05
12		(260) 12.2 29	215		109	3.45		3.00
13		(270) 12.1 29	220		109	3.45		2.95
14		12.3 29	225		109	3.35		2.90
15		12.0 29	230		109	3.15		2.95
16		11.9 29	235		111	2.80	2.8	2.95
17		11.3 29	230		119	2.25		3.00
18		10.8 29	220		---	----		3.00
19		9.5 28	220					3.02
20		8.1 28	230					3.00
21		7.0 28	235					2.95
22		6.35 28	250					2.90
23		5.7 29	250					2.85

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 6
Maui, Hawaii (20.8°N, 156.5°W)
February 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.0 29	230					3.10
01		6.6 29	230					3.20
02		5.4 29	235					3.20
03		4.5 29	(230)					3.15
04		3.3 29	<255					2.82
05		2.9 29	(200)					2.72
06		2.8 29	(310)					2.60
07		5.4 29	275		<169	1.85		2.90
08		9.4 29	240		113	2.75		3.20
09		11.8 29	230		107	3.20		3.10
10		(280) 13.2 29	220		107	3.55		3.05
11		(270) 13.9 29	220		107	3.80	4.0	3.00
12		(260) 15.1 29	210		107	3.90	4.0	2.90
13		(320) 14.6 29	215		105	3.90	4.2	2.85
14		(320) 15.1 29	215		---	105	3.80	4.0
15		(310) 15.3 29	220		(107)	3.65	3.8	2.85
16		14.3 29	230		(107)	3.40	3.8	2.92
17		14.4 29	240		(109)	2.85	3.5	3.00
18		13.1 29	230		(117)	2.05	3.8	3.10
19		11.5 29	220				3.1	3.15
20		11.5 29	230				3.0	3.05
21		11.4 29	230				2.5	3.05
22		11.1 29	230				1.8	3.15
23		9.5 29	220					3.10

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 7

Baguio, P. I. (16.4°N, 120.6°E) February 1960							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00	>11.0	26	240				(3.05)
01	10.4	26	235				3.10
02	9.8	29	240				3.12
03	8.0	29	235				3.10
04	6.5	29	240				3.00
05	5.0	29	250				2.90
06	4.8	29	280				2.75
07	8.4	29	275				2.95
08	---	11.0	29	260	119	2.95	3.0 (2.90)
09	---	(12.5)	29	250	121	(3.40)	3.6 (2.75)
10	---	(13.8)	29	235	121	(3.78)	(2.65)
11	---	(13.0)	29	230	119	(3.95)	(2.40)
12	---	(12.3)	29	230	119	(3.98)	(2.30)
13		(12.8)	29	230	119	3.90	(2.30)
14		(12.6)	29	230	119	(3.80)	(2.35)
15		(12.8)	29	240	119	3.55	(2.52)
16	>12.5	29	250		125	3.20	(2.65)
17	>11.0	29	270		127	2.50	(2.50)
18	>10.4	29	290				(2.42)
19	>10.4	29	350				(2.40)
20	>10.1	18	330				----
21	>11.0	16	290				(2.80)
22	(11.7)	21	250				(2.90)
23	>11.2	24	240				(3.10)

Time: 120.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 9

Fairbanks, Alaska (61.9°N, 147.0°W) January 1960							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00	(2.6)	5					3.6 ----
01	(2.8)	5					3.9 ----
02	(3.65)	6					4.2 (2.62)
03	(3.85)	6					4.3 (2.55)
04	(3.9)	10					4.5 ----
05	(4.1)	12					3.4 (2.65)
06	(3.95)	10					4.4 (2.50)
07	(4.15)	12					3.3 (2.55)
08	(4.5)	17					2.2 (2.80)
09	(5.4)	20					(3.00)
10	(6.9)	23					(3.10)
11	8.3	26					3.10
12	9.9	27					3.10
13	10.2	29					3.10
14	10.6	28					3.10
15	10.0	29					3.10
16	9.5	29					3.10
17	7.95	26					3.12
18	(6.0)	21					(3.10)
19	(4.7)	23					(3.05)
20	(3.6)	19					2.1 (2.98)
21	(3.5)	13					2.4 (3.00)
22	(3.0)	11					3.2 (2.90)
23	(3.45)	10					3.7 (2.88)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 11

Anchorage, Alaska (61.2°N, 149.9°W) January 1960							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00	(2.6)	21					(2.75)
01	(2.4)	16					(2.70)
02	(2.45)	20					2.2 (2.50)
03	(2.3)	18					2.3 (2.52)
04	(2.85)	22					(2.60)
05	(2.95)	22					(2.50)
06	(2.7)	22					(2.55)
07	(2.7)	25					(2.55)
08	(4.0)	24					(2.85)
09	5.6	28			108	1.90	3.15
10	7.6	27					3.20
11	9.25	26			<123	(2.25)	3.15
12	9.95	28			(129)	2.32	3.10
13	11.4	27					3.10
14	10.4	27			(123)	----	3.15
15	10.0	28			<156	----	3.10
16	10.1	29					3.10
17	8.25	28					3.10
18	6.1	28					3.15
19	4.4	29					3.10
20	3.55	28					3.00
21	(3.0)	25					(3.00)
22	(2.7)	27					(2.85)
23	(2.65)	22					(2.90)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 8

Point Barrow, Alaska (71.3°N, 156.8°W) January 1960							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00	4.3	12					6.0 2.62
01	(3.8)	11					3.2 (2.60)
02	(4.3)	7					4.0 (2.60)
03	(4.0)	6					3.8 ----
04	(4.0)	11					3.0 (2.35)
05	(4.2)	15					3.0 (2.50)
06	(3.9)	13					2.8 (2.28)
07	(4.5)	13					3.3 (2.30)
08	(4.95)	10					3.4 (2.35)
09	(4.4)	13					3.5 (2.50)
10	5.0	23					3.1 2.60
11	6.3	23					2.5 2.65
12	7.0	23					2.70
13	8.0	25					2.70
14	8.05	24					2.70
15	8.6	25					2.70
16	8.65	26					2.68
17	7.15	28					2.65
18	5.7	25					2.2 2.60
19	(4.25)	22					2.7 (2.58)
20	4.0	21					3.0 2.50
21	(4.3)	19					3.3 (2.80)
22	(4.0)	17					3.4 2.78
23	(4.3)	11					4.4 (2.58)

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 10

Reykjavik, Iceland (64.1°N, 21.8°W) January 1960							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00	----	0	(345)				3.6
01	>3.75	2	<390				3.5
02	>4.95	2	(350)				3.6 ----
03	----	0	(300)				3.7
04	(4.85)	4	(300)				2.7 ----
05	(4.6)	7	290				----
06	(4.25)	8	200				(3.00)
07	3.7	13	(270)				2.80
08	3.7	15	(270)				2.90
09	4.85	24	270				3.00
10	6.9	27	250				3.15
11	9.2	28	240				3.20
12	10.35	28	235				3.22
13	10.5	28	230				(3.20)
14	>9.25	24	230				(3.20)
15	8.9	20	240				(3.15)
16	6.2	12	235				----
17	>4.15	16	280				(3.00)
18	>3.85	12	280				(2.90)
19	(4.3)	9	310				2.9
20	(3.6)	7	300				3.2 ----
21	>3.6	5	320				3.4
22	>4.1	4	(340)				3.4
23	(4.3)	3	365				3.4 ----

Time: 15.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 12

Adak, Alaska (51.9°N, 176.6°W) January 1960							
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	foEs (M3000)F2
00	2.7	28	330				2.68
01	2.8	29	330				2.60
02	2.75	28	330				2.65
03	2.95	28	325				2.60
04	2.9	26	325				2.62
05	2.3	28	335				2.55
06	2.75	28	310				2.65
07	3.5	27	270				2.65
08	6.7	31	230				3.20
09	---	9.5	31	220	---	114 (2.00)	2.2 3.40
10	---	11.0	31	225	---	120 2.70	3.30
11	---	12.0	31	225	---	116 2.00	3.25
12	11.4	31	220			115 2.90	3.20
13	11.8	31	225			117 2.80	3.20
14	11.2	31	225			110 2.60	3.22
15	10.0	31	215			120 2.29	3.25
16	9.0	31	220			(124) 1.85	3.20
17	7.2	31	210				3.25
18	5.2	31	220				3.30
19	3.5	29	220				3.30
20	2.6	29	255				3.05
21	2.7	31	275				3.00
22	2.6	27	280				2.80
23	2.65	28	290				2.70

Time: 180.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 13
Ft. Monmouth, New Jersey (40.4°N, 74.1°W)
January 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		5.0 27	<270					2.85
01		5.0 29	(200)					2.80
02		5.0 29	(270)					2.85
03		4.7 29	255					2.95
04		4.55 20	(255)					2.88
05		4.2 20	(255)					2.85
06		3.9 20	(245)					2.90
07		4.7 29	<240					3.05
08		8.1 29	215		(118)	2.30		3.30
09		10.4 31	220		(110)	2.60		3.30
10		12.3 30	215		115	3.20		3.20
11	---	12.0 31	215		112	3.40		3.20
12		12.65 30	215		111	3.45		3.10
13		12.5 31	215		112	3.30		3.05
14		12.7 29	220		112	3.20		3.00
15		12.3 20	225		112	2.90		3.05
16		11.0 29	220		(116)	2.42		3.05
17		11.3 30	220		---	---		3.10
18		10.3 29	220					3.05
19		9.6 30	215					3.10
20		7.0 30	220					3.05
21		6.4 30	235					2.98
22		5.95 30	240					2.95
23		5.65 23	250					2.90

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 14
Boulder, Colorado (40.0°N, 105.3°W)
January 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		3.7 31	210					2.78
01		3.0 30	210					2.80
02		3.0 31	275					2.80
03		3.8 31	275					2.80
04		3.8 31	275					2.72
05		3.8 31	<205				2.4	2.70
06		3.7 31	(275)				2.3	2.85
07		4.5 30	250				2.1	2.95
08		7.8 31	225		<125	2.15	2.4	3.30
09		9.8 30	220		<115	2.00		3.20
10	---	12.0 31	220		100	3.20		3.10
11	---	12.6 27	220		107	3.35		3.10
12	---	12.75 30	220		113	4		3.05
13	---	12.65 30	220		113	3.40		3.00
14		12.6 29	235		111	3.2		2.95
15		12.3 30	235		111	2.90		3.00
16		11.65 30	220		115	2.35	2.6	3.00
17		10.9 29	230		---	1.95	3.0	3.05
18		9.5 31	215					3.10
19		7.8 31	210					3.15
20		5.5 31	215				1.8	3.10
21		4.4 31	240					3.00
22		3.1 31	255					2.98
23		3.7 31	270				2.4	2.88

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 15
Washington, D. C. (38.7°N, 77.1°W)
January 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.9 31	205					2.85
01		4.9 30	200					2.90
02		4.9 30	275					2.82
03		4.9 31	260					2.90
04		4.6 30	260					2.90
05		4.5 29	260				1.8	2.80
06		4.2 20	250					2.90
07		4.6 31	250					3.00
08		7.7 31	225		<121	2.20		3.35
09		10.0 31	225		111	2.75	2.8	3.25
10		12.0 31	225		109	3.10		3.20
11	---	12.8 31	225		109	3.30		3.10
12	---	12.5 31	225		109	3.40		3.05
13	---	12.4 31	220		109	3.32		2.95
14	---	12.4 31	225		109	3.25		2.95
15	---	12.4 31	230		111	2.95		2.95
16		11.9 31	230		113	2.55		3.00
17		11.4 31	230		(139)	1.95	2.0	3.00
18		10.6 31	220					3.05
19		9.9 31	220					3.10
20		7.05 30	220					3.05
21		6.1 31	245					2.90
22		5.8 31	250					2.95
23		5.5 31	255					2.90

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 16
White Sands, New Mexico (32.3°N, 106.5°W)
January 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		4.0 29	270				2.1	2.82
01		1.0 30	270					2.85
02		1.0 29	275				2.3	2.75
03		3.0 29	(210)				2.2	2.85
04		3.85 30	<290					2.68
05		3.8 27	(310)					2.60
06		3.8 29	(290)					2.75
07		5.7 27	250				2.5	3.00
08		9.0 20	225		117	2.50	2.8	3.32
09		10.2 27	225		109	3.10	3.3	3.25
10	---	11.6 27	220		107	3.40	3.6	3.05
11	---	12.6 27	220		109	3.60	3.8	3.00
12	---	12.6 29	220		109	3.70	3.9	2.98
13	---	12.5 28	220		110	3.60	3.7	2.05
14	---	12.15 26	220		111	3.50	3.8	2.90
15		12.15 26	230		111	3.25	3.3	2.90
16		11.6 27	230		111	2.00	3.1	3.00
17		10.8 20	230		<123	2.05	2.4	3.00
18		9.4 28	210				2.9	3.08
19		7.85 28	225				2.8	3.00
20		6.15 20	225				3.2	3.12
21		4.45 28	240				3.0	3.02
22		4.1 27	265				3.1	2.05
23		4.0 29	<210				2.6	2.90

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 17
Okinawa I. (26.3°N, 127.8°E)
January 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>8.5 31	245					(2.90)
01		(7.1) 31	245					(2.90)
02		(6.2) 31	240					2.95
03		(5.2) 31	250					(2.85)
04		4.4 31	245					(2.80)
05		3.6 31	<300					2.60
06		3.5 30	<330					2.72
07		5.1 31	295					2.80
08		10.3 31	250		---	(2.55)		3.20
09	---	12.8 30	240		114	3.10		3.30
10	---	13.95 30	230		110	(3.45)	3.7	3.15
11	---	14.3 29	220		110	(3.70)	4.0	3.05
12	---	(15.8) 29	220		110	(3.85)	4.1	2.90
13	---	(16.9) 28	220		110	3.90	4.1	(2.80)
14	---	(16.95) 28	220		110	3.80		(2.85)
15	---	(16.7) 28	230		110	3.60	3.6	2.85
16		(16.1) 29	240		112	3.25		(2.95)
17		(15.15) 30	240		117	2.60	3.0	(3.00)
18		(14.3) 30	230				3.0	(3.00)
19		(12.9) 31	<230				2.9	(3.08)
20		>12.95 30	<240					(3.05)
21		(11.4) 31	225					(2.95)
22		>10.0 31	220					(2.95)
23		8.7 31	240					(2.80)

Time: 135.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 18
Kauai, Hawaii (20.8°N, 156.5°W)
January 1960

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.4 31	260				2.0	3.00
01		6.5 31	245					3.15
02		>5.7 31	230					3.25
03		4.5 29	230					3.25
04		3.6 28	<250					2.95
05		3.1 29	<305					2.68
06		>2.9 29	(320)					2.65
07		5.2 31	295		<166	1.68		2.80
08		9.9 31	250		(117)	2.65	2.7	3.15
09	250	13.0 31	235		111	3.20	3.4	3.20
10	250	13.5 31	225		107	3.55	4.5	3.15
11	<275	13.5 31	215		---	107	3.80	4.5
12	(315)	14.2 31	<220		---	(107)	3.90	4.3
13	(330)	15.0 31	215		---	<109	3.90	4.2
14	(320)	15.0 31	<230		---	107	3.85	4.1
15	(315)	14.4 31	235		---	107	3.68	4.3
16	---	13.5 31	240		---	107	3.30	4.1
17	---	13.2 31	240		---	111	2.70	3.8
18		12.1 31	230		---	---	4.0	3.20
19		9.5 31	220				4.0	3.20
20		8.4 31	(240)				4.5	3.05
21		8.8 31	240				4.4	3.20
22		8.1 31	225				3.0	3.10
23		6.8 31	(245)				2.8	2.90

Time: 150.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 19

Baquiao, P. I. (16.4°N, 120.6°E) January 1960									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		9.8	28	260			2.0	2.95	
01		9.4	30	250				3.02	
02		7.95	30	240				3.10	
03		6.5	30	240				3.10	
04		5.0	30	260				2.85	
05		4.3	31	260				2.95	
06		4.3	31	290				2.80	
07		8.2	31	290	<145	2.30		2.85	
08		12.0	31	265	<121	3.00		2.82	
09	---	13.5	31	250	121	(3.45)	3.6	2.80	
10	---	12.8	30	(240)	---	119	(3.78)	4.1	2.48
11	---	>12.25	30	(235)	121	(3.95)	4.3	2.35	
12	---	>12.0	31	(230)	119	(3.95)	5.0	(2.30)	
13	---	12.2	30	240	(120)	(3.92)	4.5	2.30	
14	---	>12.5	29	<250	119	(3.80)	4.6	2.40	
15	---	(13.5)	29	250	119	3.62	4.0	(2.50)	
16	---	(13.4)	30	265	119	3.25	3.6	(2.55)	
17		(12.9)	31	280	121	2.50	3.1	(2.68)	
18		(12.15)	30	285			2.8	(2.75)	
19		(12.5)	31	315			2.0	(2.70)	
20		>12.6	24	310			2.5	(2.70)	
21		>12.0	27	270			2.3	(2.90)	
22		11.4	27	250			2.9	(2.90)	
23		(10.2)	27	255			2.4	(2.82)	

Time: 120.0°E.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 21

Boulder, Colorado (40.0°N, 105.3°W) December 1959									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		3.45	24	290			2.2	2.70	
01		3.4	25	290			2.5	2.75	
02		3.5	27	260			2.9	2.80	
03		3.3	26	290			3.3	2.75	
04		3.3	21	290			2.6	2.75	
05		3.2	21	<290			2.8	2.75	
06		3.1	22	<290			3.1	2.72	
07		4.5	24	260	---	---	3.8	2.90	
08		7.7	22	230	<117	2.20	2.4	3.25	
09		9.25	26	225	(117)	2.70	3.0	3.20	
10		11.05	26	225	<115	3.00	4.4	3.10	
11		12.2	27	225	<110	3.20	3.4	3.10	
12		12.7	29	225	<115	3.30		3.05	
13		12.4	28	225	115	3.22		3.00	
14		12.1	29	225	<116	3.00		3.00	
15		11.6	29	230	<121	2.70	4.6	3.05	
16		11.0	30	230	<132	2.12	4.6	3.05	
17		10.0	29	220	---	---	3.5	3.10	
18		7.9	29	220			2.7	3.10	
19		6.4	28	220				3.20	
20		4.4	29	225				3.20	
21		3.7	29	250				3.00	
22		3.2	28	<270				2.92	
23		3.1	27	<285			2.9	2.75	

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 23

Grand Bahama I. (26.6°N, 78.2°W) December 1959									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		4.3	30	260				2.90	
01		4.4	27	270				3.00	
02		4.45	28	260				3.00	
03		4.0	31	270				3.00	
04		3.95	30	295				2.70	
05		4.0	30	295				2.80	
06		4.2	27	270				2.85	
07		6.5	30	245	<163	2.00		3.15	
08		9.7	31	230	<114	2.70		3.28	
09		11.3	31	230	110	3.12		3.20	
10	---	12.1	31	225	---	109	3.40	3.5	3.12
11	---	12.0	30	220	---	109	3.60	3.8	3.10
12	---	11.9	31	220	---	(110)	3.70	3.7	3.00
13	---	11.6	31	225	---	<113	3.62	3.6	2.95
14	---	11.7	31	230	---	111	3.50		2.95
15		11.7	31	230	---	112	3.30		3.00
16		(11.4)	31	235	<119	2.85	2.9	(3.02)	
17		(10.5)	31	230	(134)	2.20			3.10
18		>9.0	31	220					3.08
19		7.4	31	220					3.00
20		6.5	31	240					3.00
21		5.7	31	245					3.00
22		4.95	30	245					3.00
23		4.45	30	245					3.00

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 20

Reykjavik, Iceland (64.1°N, 21.8°W) December 1959									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		(3.5)	3	355			3.7	----	
01		>3.7	5	365			3.2	----	
02		(4.5)	2	<370			3.5	----	
03		>3.55	4	(360)			3.8	----	
04		>3.65	4	(360)			3.0	----	
05		(3.9)	3	330			2.7	----	
06		>4.0	10	300				----	
07		(4.0)	11	300				(2.80)	
08		3.5	15	250				2.80	
09		(4.3)	21	290				2.95	
10		6.2	23	260				3.10	
11		7.8	25	240				3.15	
12		8.7	25	250				3.20	
13		>9.1	24	240				3.10	
14		>7.0	21	230				(3.10)	
15		(6.5)	12	235				(3.00)	
16		4.45	10	250				----	
17		>4.7	5	230			2.8	----	
18		(4.5)	7	300			3.5	(2.90)	
19		>3.7	5	<360			3.6	----	
20		(4.2)	6	320			3.4	----	
21		(4.0)	3	<345			3.7	----	
22		>3.65	4	360			4.3	----	
23		(3.5)	1	(360)			4.2	----	

Time: 15.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 16.2 seconds.

Table 22

White Sands, New Mexico (32.3°N, 106.5°W) December 1959									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		3.6	27	<340			3.1	2.65	
01		3.6	27	<340				2.60	
02		3.5	27	<335				2.62	
03		3.5	28	(330)				2.62	
04		3.4	28	<340				2.60	
05		3.4	23	<360				2.55	
06		3.5	22	<335				2.70	
07		5.6	30	290				2.85	
08		8.8	30	265	(141)	(2.50)		3.05	
09		10.55	30	260	131	3.00		3.00	
10		11.6	30	260	(129)	3.35	3.5	2.90	
11	---	12.45	28	250	(131)	---	3.4	2.85	
12	---	12.3	29	<260	(129)	3.50	3.8	2.80	
13	---	12.1	29	255	(127)	3.60		2.80	
14		11.6	30	260	(131)	3.40		2.75	
15		11.6	30	265	<135	---	3.1	2.75	
16		10.95	28	260	<135	---	2.9	2.80	
17		10.05	28	255	---	---	2.4	2.85	
18		8.2	29	250			2.0	2.92	
19		6.55	28	265			>2.8	2.95	
20		4.8	30	<270				3.00	
21		3.8	27	<300			3.0	2.85	
22		3.5	27	<320			2.6	2.70	
23		3.55	26	<355			3.2	2.60	

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 24

Concepcion, Chile (36.6°S, 73.0°W) December 1959									
Time	h°F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2	
00		9.9	29	310			4.0	2.70	
01		9.65	30	290			3.7	2.70	
02		9.2	30	295			3.4	2.70	
03		8.7	29	305			3.6	2.65	
04		8.5	29	315			2.8	2.60	
05		9.1	30	260	---	E	2.20	2.6	
06		9.95	30	240	119	2.85	4.2	2.80	
07	---	10.3	30	230	101	3.20	4.1	2.65	
08	---	10.8	30	225	---	---	---	2.60	
09	(390)	11.1	31	(230)	---	---	---	2.60	
10	<380	11.7	31	(220)	---	---	---	2.60	
11	360	12.3	31	<225	5.7	107	(4.00)	4.5	2.60
12	350	12.4	31	(230)	5.8	103	(4.05)	4.6	2.65
13	360	12.4	31	<245	5.6	109	(4.05)	4.6	2.70
14	350	12.3	31	(255)	5.8	109	4.05	4.9	2.75
15	330	12.1	31	(250)	5.5	107	3.95	5.0	2.75
16	330	11.6	31	(250)	---	107	3.75	5.4	2.80
17	---	10.7	31	<260	---	105	3.45	5.7	2.80
18	---	9.8	29	(270)	---	109	(3.05)	5.4	2.85
19	---	9.3	29	(295)	---	---	---	4.8	2.70
20	---	9.3	28	345	---	---	---	4.5	2.55
21	---	>9.4	28	360	---	---	---	3.8	2.50
22	---	>9.65	28	360	---	---	---	4.4	2.45
23	---	>9.65	28	335	---	---	---	4.6	2.50

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 25

Grand Bahama I. (26.6°N, 70.2°W) November 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	4.9	20	265				2.90
01	4.8	28	265				2.90
02	4.75	30	260				2.95
03	4.4	29	250				2.96
04	3.95	28	<265				2.75
05	3.8	27	<265				2.75
06	4.0	28	270				2.85
07	7.6	30	240		(130)	2.20	3.25
08	10.5	29	235		111	2.90	3.25
09	12.0	29	230		109	3.20	3.20
10	12.55	28	225		109	3.50	3.15
11	12.6	28	220		109	3.60	3.05
12	12.2	29	220		108	3.70	3.00
13	12.3	29	230		110	3.65	2.95
14	12.1	29	230	---	111	3.50	2.95
15	11.9	30	<240		111	3.25	3.00
16	(11.4)	30	<240		115	2.80	(3.00)
17	(10.85)	30	225		(123)	2.10	(3.05)
18	>9.0	29	215				(3.10)
19	7.15	30	220				3.05
20	6.75	30	240				3.00
21	6.05	28	240				3.05
22	5.6	30	250				2.95
23	5.05	30	250				2.90

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 26

Concepcion, Chile (36.6°S, 73.0°W) November 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	10.75	30	310				2.70
01	10.7	28	290				2.80
02	9.8	28	275				1.6
03	9.15	28	250				2.75
04	8.6	27	270				2.65
05	9.15	23	240				2.05
06	9.9	28	230		121	(2.15)	2.85
07	10.3	27	230		103	3.30	3.7
08	11.05	28	220		104	3.60	4.0
09	11.7	29	220	---	107	3.90	4.1
10	12.5	29	(215)	---	109	4.00	2.75
11	(350)	13.2	29	(220)	---	109	(4.10)
12	340	13.45	30	<225	---	109	(4.10)
13	(320)	13.7	29	(230)	---	109	4.02
14	(345)	13.4	30	(230)	---	109	(3.95)
15	330	13.15	30	<230	---	109	3.70
16	---	12.6	30	(230)		103	3.35
17	<320	12.4	30	240		109	2.05
18	---	12.0	30	260		(119)	(2.20)
19	---	11.25	30	290			3.7
20	---	(10.4)	30	310			3.3
21	---	>10.0	29	330			3.4
22	---	10.7	29	340			3.3
23	---	>10.55	28	320			2.1

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 27

Pogota, Colombia (4.5°N, 74.2°W) October 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	>10.95	24	230				3.30
01	7.65	22	210				3.30
02	5.1	24	210				3.12
03	4.35	24	230				2.95
04	3.65	24	<250				2.0
05	3.55	24	290				2.0
06	7.0	25	260		(129)	2.05	2.2
07	10.2	26	240		113	2.88	3.0
08	12.5	27	230		111	3.40	4.0
09	13.75	28	225		111	3.00	4.0
10	14.2	28	220		111	4.00	4.5
11	14.4	28	(220)		111	4.05	4.5
12	15.25	28	(220)		111	4.10	4.4
13	15.5	29	<225		111	4.00	4.6
14	15.45	28	220		111	3.88	4.5
15	15.1	29	(235)		111	3.50	4.7
16	15.5	30	<250		111	3.05	4.6
17	15.8	29	255		<115	2.45	4.3
18	16.8	29	260				4.0
19	17.5	27	265				3.1
20	17.0	25	235				2.5
21	16.1	27	215				2.5
22	(13.5)	26	225				2.95
23	>13.0	25	235				(3.20)

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 28

Boulder, Colorado (40.0°N, 105.3°W) July 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	5.45	30					3.7
01	5.1	26					2.7
02	5.0	26					3.4
03	4.7	26					3.0
04	4.5	27					3.0
05	4.5	29					2.2
06	5.2	26					2.6
07	5.8	30					3.3
08	6.1	31					4.0
09	6.55	30					4.2
10	6.8	27					4.4
11	6.9	25					4.4
12	6.8	27					4.4
13	7.0	29					4.3
14	7.0	29					4.2
15	7.0	28					3.9
16	7.0	27					4.0
17	7.0	29					4.1
18	6.75	28					3.7
19	7.0	27					4.5
20	6.85	28					4.0
21	6.7	28					3.7
22	5.85	28					3.5
23	5.6	28					3.3

Time: 105.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 29

Pogota, Colombia (4.5°N, 74.2°W) July 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	8.6	30	240				2.85
01	8.1	28	265				1.9
02	8.0	28	255				3.08
03	6.8	29	245				2.0
04	6.15	28	250				2.0
05	5.75	30	260				2.2
06	6.3	30	270		<127	1.85	2.6
07	7.8	30	<250		109	2.80	3.4
08	8.7	29	230		109	3.35	3.5
09	9.15	38	220	---	111	3.75	4.2
10	(385)	10.0	29	210	---	111	4.00
11	(390)	10.8	38	210	5.6	110	4.10
12	435	11.8	28	<215	5.8	111	4.20
13	410	12.45	30	210	5.9	111	4.15
14	395	12.95	30	(220)	5.6	111	4.00
15	405	13.15	30	(235)	5.9	109	3.80
16	(395)	13.0	30	<240	---	111	3.40
17	(340)	12.7	30	250		111	2.80
18	11.85	30	270		---	(2.00)	3.3
19	10.95	30	290				3.4
20	10.65	28	310				3.0
21	11.05	28	295				2.5
22	11.2	29	270				2.4
23	10.5	31	250				2.3

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 30

Lulea, Sweden (65.6°N, 22.1°E) June 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	---	6.3	21	315	---	1.8	3.2
01	---	6.0	21	310	---	1.8	3.2
02	---	6.4	20	290	---	130	2.1
03	400	6.4	21	260	3.6	120	2.3
04	395	6.6	21	255	4.0	115	2.6
05	390	6.7	19	250	4.5	110	2.8
06	405	6.9	19	240	4.8	110	3.1
07	415	7.1	20	230	5.0	105	3.2
08	440	7.1	23	230	5.2	105	3.4
09	435	7.3	23	220	5.3	105	3.5
10	450	7.4	23	220	5.4	105	3.5
11	455	7.2	24	225	5.5	105	3.5
12	460	7.0	22	225	5.5	105	(3.6)
13	450	7.0	23	220	5.4	105	(3.6)
14	460	6.8	22	220	5.3	105	(3.5)
15	440	6.8	22	225	5.2	105	3.4
16	410	6.8	22	230	5.0	110	3.3
17	(395)	6.6	22	235	4.7	110	3.1
18	---	6.6	23	250	4.3	110	2.9
19	---	6.5	21	250	---	115	2.7
20	---	6.6	20	265	---	120	2.4
21	---	6.5	19	275	---	120	2.0
22	---	6.5	19	300	---	1.9	3.0
23	---	6.2	19	315	---	1.8	3.2

Time: 15.0°E.

Sweep: 0.65 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 31

Boulder, Colorado (40.0°N, 105.3°W)								
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	June 1959 (M3000)F2
00		5.9 30					3.6	2.60
01		5.7 30					3.1	2.55
02		5.5 29					3.4	2.55
03		5.0 29					3.6	2.55
04		5.0 28					2.8	2.60
05		5.2 28					2.1	2.70
06		5.8 29					2.9	2.75
07		6.6 29					4.0	2.60
08		7.1 29					4.3	2.55
09		7.1 29					4.4	2.50
10		7.1 29					4.9	2.52
11		7.4 29					4.6	2.50
12		7.75 28					>4.4	2.50
13		7.3 30					4.5	2.50
14		7.5 29					4.3	2.55
15		7.0 24					4.2	2.55
16		7.0 25					4.0	2.65
17		7.0 26					3.5	2.70
18		7.0 27					3.6	2.72
19		7.1 27					3.6	2.85
20		6.0 28					3.6	2.80
21		6.7 28					4.0	2.70
22		6.1 29					3.7	2.65
23		5.95 30					3.8	2.60

Time: 105.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 33

Bunia, Belgian Congo (1.5°N, 30.2°E)								
Time	h'F2	foF2—Count	h'F1	foF1	h'E	foE	fEs	June 1959 (M3000)F2
00	255	----	2				3.9	----
01	250	(8.6)	6				3.6	(2.80)
02	240	7.4	12				4.0	2.87
03	230	6.6	16				3.4	2.99
04	280	7.7	14	----	----	----	3.8	2.82
05	260	11.4	22	250	----	115	2.8	4.0
06	270	13.0	26	240	----	110	3.4	4.8
07	(300)	13.6	26	235	----	110	3.7	4.7
08	(345)	13.6	26	235	----	110	4.0	4.7
09	395	13.6	26	250	----	110	4.0	2.54
10	430	13.6	25	250	----	110	4.1	2.38
11	450	13.4	23	250	6.4	110	4.0	2.10
12	450	13.3	23	250	6.0	110	4.0	2.08
13	450	13.3	22	245	6.0	110	3.7	2.13
14	(450)	13.4	26	240	----	115	3.4	2.20
15	----	13.4	24	260	----	120	2.7	2.22
16	----	13.7	25	290	----	----	3.3	2.24
17	325	14.0	19				4.5	2.27
18	325	----	1				2.9	----
19	200	----	0				2.5	----
20	280	----	1				2.5	----
21	275	----	0				3.0	----
22	270	----	0				3.0	----
23	270	----	1				4.0	----

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 35

Elisabethville, Belgian Congo (11.6°S, 27.5°E)								
Time	h'F2	foF2—Count	h'F1	foF1	h'E	foE	fEs	June 1959 (M3000)F2
00	250	1.4	26				1.5	2.66
01	250	3.8	27				1.4	2.60
02	255	3.0	27				1.6	2.84
03	270	2.7	27				1.6	2.70
04	200	4.0	28				2.1	2.51
05	250	8.5	28	250	----	130	2.2	2.6
06	250	10.9	29	245	----	110	3.0	2.96
07	260	11.8	30	240	----	110	3.5	2.90
08	280	11.9	28	240	----	110	3.7	2.00
09	290	11.5	29	250	----	110	4.0	2.65
10	310	11.2	30	250	----	110	4.0	2.54
11	345	11.0	29	250	6.0	110	4.0	2.50
12	350	11.0	29	250	----	110	3.9	2.45
13	350	10.9	30	250	5.6	110	3.6	2.43
14	340	11.0	30	250	----	110	3.2	2.47
15	295	11.4	30	260	----	120	2.6	2.56
16	250	11.6	28				3.6	2.00
17	235	10.6	28				3.5	2.93
18	230	9.0	20				3.0	<2.91
19	240	7.4	16				3.0	2.72
20	240	8.1	19				2.6	2.78
21	240	6.6	21				2.4	2.78
22	240	6.0	19				2.2	2.78
23	240	5.4	23				1.6	2.65

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 32

Ibadan, Nigeria (7.4°N, 3.9°E)								
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	June 1959 (M3000)F2
00		6.5	29	410				----
01		6.3	29	410				----
02		5.9	29	355				----
03		5.7	29	330				----
04		5.0	29	255				(3.10)
05		4.6	29	250				3.20
06		8.1	28	255		2.20		3.00
07		11.1	27	245		3.05		2.90
08		12.8	29	235		3.60	7.0	2.75
09		13.2	28	220		3.90	7.0	2.50
10		13.2	29	205		(4.10)	8.5	(2.30)
11		12.5	28	205		(4.20)	9.2	(2.20)
12		11.8	28	205		(4.25)	8.5	(2.20)
13		11.6	30	205		(4.15)	7.0	2.15
14		11.6	30	200		(4.00)	7.0	2.20
15		11.6	30	210		3.70	7.0	2.20
16		11.6	30	220		3.30	7.0	2.30
17		(11.5)	30	255		2.75	6.6	(2.25)
18		>11.0	30	295		(1.70)		(2.20)
19		>9.4	30	370				(2.10)
20		>8.0	29	405				----
21		7.0	28	450				----
22		7.0	29	455				----
23		6.5	29	435				----

Time: 0.0°.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 34

Leopoldville, Belgian Congo (4.4°S, 15.2°E)								
Time	h'F2	foF2—Count	h'F1	foF1	h'E	foE	fEs	June 1959 (M3000)F2
00	220	13.0	15				2.7	2.82
01	220	7.6	13				2.8	2.80
02	230	6.5	19				3.4	2.65
03	245	6.0	23				2.9	2.69
04	245	5.4	28				2.8	2.75
05	270	6.6	27				2.8	2.70
06	(250)	10.8	25	250	----	125	2.6	3.0
07	270	12.3	26	240	----	115	3.3	3.8
08	280	13.0	30	240	----	110	3.6	4.2
09	300	13.0	30	240	----	110	4.0	2.72
10	340	12.6	30	235	----	110	4.0	2.50
11	350	13.5	24	240	----	110	----	2.40
12	395	13.5	28	240	----	110	----	2.29
13	395	13.8	30	250	6.0	110	3.9	4.6
14	380	14.0	29	250	5.6	110	3.6	4.4
15	350	14.0	29	250	----	110	3.2	4.5
16	----	14.0	29	260	----	120	2.5	4.2
17	270	14.4	26				3.6	<2.53
18	260	15.0	10				3.2	2.63
19	250	----	4				2.8	----
20	220	----	3				2.5	----
21	230	----	3				2.0	----
22	235	15.9	14				2.5	2.70
23	225	15.0	19				2.9	2.77

Time: 0.0°.
Sweep: 1.0 Mc to 20.0 Mc in 7 seconds.

Table 36

Brisbane, Australia (27.5°S, 152.9°E)								
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	June 1959 (M3000)F2
00		4.8	24	255				2.75
01		4.8	23	265				2.75
02		4.7	23	270				2.65
03		4.8	22	265				2.75
04		4.6	23	260				2.75
05		4.5	25	250				2.80
06		4.8	25	<250				2.85
07		7.7	25	230		2.20		3.25
08		10.2	23	230		2.80		3.25
09		11.7	23	230		3.30	3.5	3.15
10		11.8	22	225		3.50	3.7	3.10
11		11.1	23	225		3.70	4.0	3.00
12		11.0	24	220		3.70	4.1	2.95
13		10.8	24	225		3.60	4.4	2.90
14		10.8	24	225		3.40	4.7	2.90
15		10.9	25	230		3.20	4.4	2.85
16		10.7	27	230		2.80	4.4	2.95
17		9.8	27	230		<2.10	3.7	3.00
18		8.4	26	230			3.6	2.95
19		7.0	26	245				2.85
20		6.4	26	255				2.80
21		6.0	25	250				2.80
22		5.5	23	250				2.85
23		5.0	22	250				2.80

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 37

Upsala, Sweden (59.3°N, 17.6°E)									
May 1959									
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	fEs	(M3000)F2	
00		6.8 31	315				2.7	2.40	
01		6.2 30	320				2.7	2.35	
02		6.0 30	315			0.75	2.8	2.35	
03	400	5.9 31	315	2.7	110	1.30	2.9	2.40	
04	400	6.0 31	295	3.5	105	1.75	2.7	2.40	
05	410	6.3 31	260	4.2	110	2.30	3.3	2.50	
06	400	6.3 31	245	4.6	105	2.75	4.0	2.50	
07	410	7.4 31	240	5.0	105	3.15	4.8	2.60	
08	410	8.0 31	240	5.3	105	3.35	4.6	2.50	
09	370	8.3 31	230	5.5	105	3.50	4.6	2.50	
10	420	8.4 31	230	5.6	105	3.60	5.1	2.60	
11	415	8.5 31	230	5.7	105	3.70	4.7	2.50	
12	410	8.4 31	225	5.8	105	3.70	4.7	2.50	
13	400	8.6 31	230	5.8	105	3.70	4.7	2.50	
14	390	8.4 31	230	5.7	105	3.60	4.6	2.60	
15	375	8.3 31	240	5.6	105	3.50		2.60	
16	365	8.3 31	240	5.2	105	3.30	4.0	2.60	
17	300	8.4 31	245	5.1	110	3.05	3.4	2.70	
18	(200)	8.3 30	255	(4.2)	110	2.60	3.8	2.70	
19	---	8.4 31	260	---	110	2.15	3.1	2.80	
20	---	8.2 31	275	---	110	1.50	2.7	2.70	
21	---	8.0 31	280	---	115	1.00	2.4	2.60	
22	---	7.3 31	290	---	---	0.75	1.2	2.50	
23	---	6.9 31	295	---	---	---	2.5	2.40	

Time: 15.0°E.

Sweep: 0.4 Mc to 20.0 Mc in 3 minutes, automatic operation.

Occasionally, 1.1 Mc to 17.0 Mc in 6 minutes, automatic operation.

Table 38

Monte Capellino, Italy (44.6°N, 9.0°E)									
May 1959									
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	fEs	(M3000)F2	
00		8.6 20	310					2.31	
01		8.6 20	325					2.30	
02		8.4 20	320					2.28	
03		8.0 20	310					1.7	2.22
04		7.0 29	305					1.4	2.15
05		7.6 28	295				1.7		2.39
06		8.2 28	260				2.3	2.7	2.56
07		8.6 28	240				2.9	3.3	2.55
08		9.6 28	235				3.4	3.9	2.53
09		9.6 30	225				3.6	4.2	2.63
10		9.9 30	220				3.8	4.4	2.59
11		10.2 30	220				4.0	4.5	2.41
12		10.3 31	220				4.0	4.5	2.50
13		10.6 31	225				4.0	4.5	2.48
14		10.3 31	230				3.9	4.4	2.42
15		10.4 31	240				3.6	4.1	2.54
16		10.2 31	240				3.6	4.5	2.58
17		10.4 31	250				3.5	4.2	2.50
18		10.6 31	260				2.8	3.8	2.47
19		10.5 31	280				2.0	3.5	2.50
20		10.6 31	275					3.3	2.46
21		9.5 29	275					3.2	2.40
22		9.0 29	260					1.1	2.39
23		8.8 28	300					2.3	2.35

Time: 15.0°E.

Sweep: 1.0 Mc to 20.0 Mc in 5 minutes, automatic operation.

Table 39

Boulder, Colorado (40.0°N, 105.3°W)									
May 1959									
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	fEs	(M3000)F2	
00		6.0 31	300					2.52	
01		5.8 30	300				2.5	2.52	
02		5.5 30	300					2.6	2.55
03		5.2 29	(310)					2.7	2.45
04		4.9 29	310					2.8	2.50
05	---	5.4 29	285					3.1	2.65
06	(470)	6.2 29	240	4.1	(105)	2.50	3.0	2.75	
07	515	6.7 29	230	4.5	101	3.10	3.6	2.78	
08	485	7.3 30	210	4.9	101	3.40	3.0	2.60	
09	460	7.4 29	210	5.3	101	3.68	4.0	2.45	
10	455	8.0 29	200	5.4	101	3.85	4.3	2.45	
11	440	8.0 29	(210)	5.7	101	(3.95)	4.3	2.45	
12	425	8.2 30	<215	5.8	101	(4.00)	4.3	2.40	
13	420	8.5 31	215	5.6	101	3.95	4.0	2.50	
14	420	8.2 31	220	5.5	101	3.88	3.9	2.50	
15	415	8.0 30	220	5.4	101	3.70	4.0	2.55	
16	405	8.0 29	(225)	(5.2)	101	3.40	3.7	2.55	
17	365	7.0 29	(230)	4.8	101	3.05	3.7	2.70	
18	---	7.5 31	250		<107	2.45	2.9	2.70	
19	---	7.5 31	<255		---	---	3.0	2.75	
20	---	7.0 31	250		---	---	3.0	2.65	
21	---	6.8 31	260		---	---	2.8	2.60	
22	---	6.5 29	280		---	---		2.60	
23	---	6.1 31	300		---	---		2.55	

Time: 105.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 41

Boulder, Colorado (40.0°N, 105.3°W)									
April 1959									
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	fEs	(M3000)F2	
00		6.3 29	315					2.50	
01		6.2 29	315					2.45	
02		5.8 29	315				2.4	2.45	
03		5.8 29	300					2.2	2.50
04		5.7 29	310					2.3	2.50
05		5.5 27	<310					3.6	2.55
06		6.5 26	270					2.80	
07	---	8.0 26	250	---	111	2.80	3.0	2.80	
08	---	9.05 26	240	---	107	3.22	3.6	2.78	
09	450	9.65 28	230	5.1	107	3.50	3.8	2.62	
10	510	10.2 30	220	5.2	107	3.75	>3.8	2.55	
11	415	10.8 29	220	5.7	107	3.90	4.0	2.55	
12	425	11.1 30	225	5.8	107	4.00		2.60	
13	405	11.15 30	225	6.0	107	3.92		2.60	
14	440	11.1 28	230	5.6	105	3.80		2.55	
15	(450)	10.9 27	230	5.6	107	3.60		2.55	
16	---	10.6 27	235	---	105	3.30		2.60	
17	---	10.2 29	250	---	107	2.90		2.65	
18	---	10.2 29	255	---	<122	2.28		2.75	
19	---	9.4 29	250	---	---	---		2.75	
20	---	8.3 30	250	---	---	---		2.65	
21	---	7.45 30	265	---	---	---		2.60	
22	---	6.8 30	295	---	---	---		2.52	
23	---	6.6 30	305	---	---	---		2.50	

Time: 105.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 40

Lormosa, China (25.0°N, 121.0°E)									
May 1959									
Time	h°F2	foF2—Count	h°F	foF1	h'E	foE	fEs	(M3000)F2	
00		16.0 28	280					2.80	
01		14.1 27	260					2.90	
02		12.7 30	240					2.80	
03		10.7 26	250					2.75	
04		8.6 25	260					1.9	2.70
05		8.4 28	260					2.2	2.70
06		9.4 30	250				(2.3)	3.0	2.90
07		10.0 30	240				(3.1)	4.2	2.90
08		11.2 30	240				---	4.8	2.65
09		11.8 30	(240)				---	5.3	2.60
10		12.7 31	(240)				---	5.2	2.60
11	---	13.7 31	<250	---			---	>5.0	2.55
12	(400)	14.6 30	(240)	---			---	4.9	2.55
13	(400)	15.6 31	(260)	---			---	>4.9	2.55
14	---	16.3 31	<260	---			---	4.8	2.60
15	(380)	>16.5 31	(240)	---			---	4.8	2.60
16	(380)	16.7 31	(240)	---			---	4.8	2.60
17		17.1 31	260				(3.1)	4.6	2.60
18		16.5 31	280				---	4.5	2.65
19		15.8 31	300					4.8	2.60
20		16.2 31	320					3.2	2.50
21		16.4 26	310					2.6	2.55
22		>16.4 26	300						2.60
23		16.9 27	300						2.70

Time: 120.0°E.

Sweep: 1.1 Mc to 19.5 Mc in 15 minutes, manual operation.

Table 42

Budapest, Hungary (47.4°N, 19.2°E)								March 1959
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	fEs	(M3000)F2
00		6.0	31	330				
01		>5.9	31	315				
02		5.7	31	310				
03		5.5	30	310				
04		5.1	31	310				
05		5.9	31	290				
06	---	(7.2)	30	250	---	135	2.6	
07	---	>9.5	31	245	---	125	3.0	
08	(250)	>11.1	30	240	4.2	120	3.3	3.2
09	---	12.4	31	240	---	120	3.4	
10	(260)	13.2	31	240	4.6	120	3.5	
11	---	13.2	30	240	---	120	3.5	
12	---	12.8	31	245	---	120	3.6	
13	---	12.3	31	250	---	120	3.5	
14	---	>12.0	30	250	---	125	3.3	
15		>11.4	30	250		130	3.0	
16		>9.5	29	250		145	2.6	
17		>7.4	29	250				
18		>6.8	28	255				
19		>6.3	30	270				
20		>6.0	29	290				
21		>5.6	29	300				
22		>5.6	30	315				
23		(5.8)	31	315				

Table 43

Boulder, Colorado (40.0°N, 105.3°W)							
March 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	6.05	30	295				2.60
01	5.8	30	305				2.55
02	5.8	31	300				2.60
03	5.7	31	300				2.60
04	5.5	30	300				2.58
05	5.3	31	300				2.60
06	5.7	31	290			2.6	2.70
07	7.9	31	250		<119	2.40	3.00
08	9.8	31	235		111	2.90	3.05
09	11.2	29	230		109	3.25	2.95
10	12.2	29	220		107	3.55	2.85
11	12.9	29	220		106	3.70	2.80
12	(340) 13.0	29	220		105	3.80	2.75
13	13.2	30	220		105	3.80	2.70
14	(415) 13.0	30	230		109	3.70	2.70
15	12.7	28	235		109	3.50	2.72
16	12.6	30	240		111	3.15	2.75
17	11.85	30	240		115	2.65	2.7
18	11.2	30	240		<150	(2.00)	2.90
19	9.8	30	230				2.85
20	8.75	30	230				2.80
21	7.4	31	245				2.80
22	6.5	31	255				2.80
23	6.2	31	270				2.70

Time: 105.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 45

Boulder, Colorado (40.0°N, 105.3°W)							
January 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	4.05	30	260				2.90
01	3.8	29	<280				2.75
02	3.9	29	(270)				2.80
03	3.85	30	(260)				2.75
04	3.8	30	260				2.80
05	3.75	30	<260				2.75
06	3.5	30	<270				2.80
07	5.0	29	260			3.0	2.80
08	6.6	30	225		(119)	2.30	3.20
09	10.7	29	220		109	2.95	3.3
10	12.9	28	220		109	3.30	3.08
11	13.4	29	225		109	3.55	3.05
12	13.6	31	220		109	3.60	2.95
13	13.0	31	220		107	3.50	2.85
14	12.8	31	225		109	3.40	2.80
15	12.8	31	230		109	3.10	2.80
16	11.9	30	225		<115	2.50	2.90
17	11.6	31	225		<139	1.90	2.88
18	10.0	30	220				2.90
19	8.5	31	215				2.90
20	7.0	31	225				2.90
21	5.9	31	235				2.95
22	5.2	31	245				3.00
23	4.5	31	250				2.95

Time: 105.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 47

Cape Canaveral, Florida (28.4°N, 80.6°W)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	5.7	29	<270				2.80
01	5.3	31	260				2.90
02	4.9	30	250				2.90
03	4.35	30	260				2.80
04	4.3	29	<285				2.60
05	4.2	30	(300)				2.60
06	4.2	30	<290				2.75
07	6.25	30	260		---	---	2.95
08	10.3	29	240		(125)	2.65	3.20
09	12.1	28	230		<116	3.20	3.12
10	12.75	28	230		111	3.50	3.7
11	12.5	30	220		111	3.75	2.85
12	12.5	30	230		112	3.80	4.0
13	12.5	30	230		115	3.80	3.9
14	12.15	30	230		117	3.70	2.65
15	12.0	29	235		<118	3.45	3.6
16	11.8	29	240		119	2.95	3.2
17	11.5	29	240		(127)	2.20	3.1
18	10.5	29	230				3.2
19	8.7	29	240				3.1
20	8.0	30	260				2.75
21	7.4	30	250				2.88
22	6.7	30	250				2.88
23	6.35	30	260				2.85

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 44

Boulder, Colorado (40.0°N, 105.3°W)							
February 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	4.9	28	290				2.70
01	5.05	28	300				2.62
02	5.0	28	290				2.70
03	4.85	28	280				2.68
04	4.65	28	290				2.60
05	4.55	28	295				2.60
06	4.5	26	285				2.68
07	5.9	27	250		<123	(1.88)	3.2
08	9.1	27	230		(115)	2.50	3.15
09	10.8	27	230		109	3.00	3.10
10	11.9	27	220		107	3.30	3.00
11	12.4	25	220		105	3.50	2.95
12	13.2	27	220		108	3.60	2.90
13	13.2	27	220		109	3.60	2.85
14	13.05	26	225		(109)	3.50	2.85
15	13.0	27	230		(111)	3.25	2.85
16	12.6	27	230		<115	2.85	2.90
17	12.05	28	230		<118	2.20	2.90
18	11.3	27	225				2.90
19	9.6	27	225				2.95
20	8.3	27	225				2.95
21	6.6	27	230				2.95
22	5.55	28	240				2.90
23	4.9	28	<270				2.75

Time: 105.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 46

Natal, Brazil (5.3°S, 35.1°W)							
January 1959							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	(8.1)	4	320				---
01	(9.6)	3	295				2.7
02	(8.65)	4	265				---
03	(7.6)	5	255				(2.80)
04	(7.5)	9	240				(3.00)
05	7.1	14	230				3.1
06	7.1	13	235				3.4
07	9.6	20	250				2.90
08	11.2	21	235		121	2.60	3.3
09	12.0	21	225		109	3.35	4.4
10	12.2	19	220		109	3.80	5.9
11	12.25	20	210		107	(4.10)	8.6
12	11.65	20	210		107	(4.30)	9.0
13	11.4	20	205		---	---	9.2
14	11.1	19	205		---	---	9.0
15	10.7	20	210		---	---	9.0
16	10.6	21	225		(107)	(4.28)	9.0
17	10.5	21	245		109	(3.80)	6.1
18	10.4	22	270		109	(3.30)	5.9
19	9.4	20	340		115	(2.55)	4.7
20	(8.0)	15	475				2.10
21	(8.15)	6	(480)				(1.95)
22	(8.4)	5	(360)				(2.05)
23	(8.05)	2	(340)				(2.25)

Time: 30.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 32.4 seconds.

Table 48

Byrd Station (60.0°S, 120.0°W)							
December 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M3000)F2
00	490	5.8	19	285	3.8	<113	3.00
01	510	5.7	23	270	4.0	121	3.00
02	515	5.5	23	275	4.0	111	2.95
03	555	5.6	20	275	4.1	115	2.95
04	<585	5.5	24	265	4.4	110	2.95
05	570	5.55	24	270	4.3	109	3.00
06	570	5.7	23	(255)	4.7	108	3.05
07	(550)	5.8	24	250	4.8	109	3.10
08	540	5.9	26	250	4.8	107	(3.15)
09	550	6.05	26	240	4.9	107	3.30
10	530	6.4	27	240	4.8	107	3.35
11	540	6.6	26	235	5.0	105	3.35
12	500	6.9	27	240	5.0	106	3.25
13	520	7.0	28	240	4.8	105	3.35
14	500	7.05	24	240	4.8	105	3.20
15	520	6.9	27	240	4.8	105	3.15
16	490	6.7	29	250	4.9	107	3.12
17	520	6.5	28	260	4.8	111	3.00
18	510	6.65	28	270	4.6	108	3.10
19	510	(6.5)	21	260	4.5	109	3.00
20	520	>6.0	24	280	4.5	110	3.05
21	480	6.0	24	265	4.2	113	2.90
22	500	5.95	22	270	4.0	114	2.70
23	500	6.2	23	275	3.7	115	2.85

Time: 120.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 49
Cape Canaveral, Florida (28.4°N, 80.6°W) November 1958

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		6.1	30	260				2.90
01		5.8	30	260				2.85
02		5.15	30	<270				2.85
03		5.0	29	270				2.80
04		4.6	29	<275				2.75
05		4.5	30	<300				2.70
06		4.85	30	(280)				2.78
07		6.1	29	250				3.05
08		11.8	29	235	<127	2.82	3.0	3.15
09		13.5	29	230	(119)	3.30	3.4	3.10
10		13.9	29	230	<119	3.60		3.00
11		13.7	29	225	<117	3.80		2.90
12	---	13.6	29	220	(117)	3.90	3.9	2.80
13	---	13.4	29	230	<119	3.00	4.0	2.75
14	---	13.2	30	230	(115)	3.70	3.8	2.70
15	---	12.9	30	235	<119	3.40	3.7	2.70
16		12.65	30	240	<121	3.00	3.2	2.70
17		12.4	30	240	<127	----	2.4	2.75
18		11.5	30	235				2.80
19		9.95	30	<245				2.80
20		9.1	30	<245				2.85
21		0.25	30	250				2.85
22		7.45	30	250				2.90
23		6.75	30	<260				2.90

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 50
Cape Canaveral, Florida (28.4°N, 80.6°W) October 1958

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.4	29	280				2.70
01		7.1	29	280				2.65
02		6.9	29	280				2.65
03		6.5	29	275				2.65
04		5.9	29	(280)				2.55
05		5.8	29	<295				2.60
06		6.1	29	280				2.70
07		9.5	29	240				3.10
08		12.1	27	235	115	3.05		3.00
09		13.3	29	230	111	3.50	3.5	2.95
10		14.0	30	220	109	3.70		2.85
11	---	14.05	30	220	111	3.45		2.70
12	---	13.95	30	220	111	4.00		2.65
13	---	13.6	31	230	111	3.90		2.60
14	---	13.4	29	230	<112	3.95		2.55
15		13.3	29	235	113	3.70	3.8	2.60
16		13.0	29	240	115	3.28	3.5	2.60
17		12.8	29	245	<121	2.58	2.9	2.65
18		12.1	29	240				2.70
19		10.3	29	240				2.65
20		9.5	29	265				2.65
21		0.95	28	265				2.70
22		8.3	28	270				2.65
23		8.1	28	270				2.70

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 51
Natal, Brazil (5.3°S, 35.1°W) October 1958

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>10.8	9	245			2.7	(2.78)
01		>9.3	11	255			3.1	(2.70)
02		>9.6	12	260			3.4	(2.70)
03		>9.0	20	250			3.3	2.80
04		9.0	19	240			3.4	2.90
05		8.2	21	230			3.9	3.00
06		8.35	24	260			1.0	2.95
07		11.35	28	250	117	2.80	3.2	3.00
08		13.2	28	240	111	3.40	3.8	2.80
09		14.4	29	230	109	3.85	6.5	2.55
10		15.0	28	220	109	(4.10)	9.0	2.35
11		15.0	28	215	(107)	(4.20)	9.0	2.20
12		14.7	27	210	109	(4.25)	9.0	2.20
13		14.15	26	210	109	(4.20)	9.0	2.20
14	---	14.2	26	210	109	4.10	9.0	2.20
15	---	14.4	20	220	107	3.95	8.9	2.20
16	---	14.55	28	240	109	3.58	8.5	2.20
17		14.2	28	260	111	3.00	6.0	2.10
18		>13.0	27	300	---	2.00	4.5	(2.00)
19		(9.45)	26	435				(1.90)
20		>9.0	7	(460)				----
21		(9.5)	6	(355)				----
22		>9.0	7	(305)				----
23		(11.0)	5	275				----

Time: 30.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 32.4 seconds.

Table 52
Grahamstown, Union of S. Africa (33.3°S, 26.5°E) September 1958

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(5.8)	23					2.9
01		(5.4)	24					(2.9)
02		5.0	23					2.9
03		4.9	23					2.8
04		4.8	23					2.9
05		4.6	22					2.9
06		(6.1)	23			(1.80)		(2.95)
07		(9.3)	7			120	(2.60)	(3.4)
08		(11.7)	17			120	(3.20)	(3.4)
09		(13.0)	9	240		<130	(3.60)	(3.3)
10		(13.0)	6	245		<130	----	(3.3)
11		(13.5)	3	240		----	----	----
12		----	0	<245		----	----	----
13		(13.5)	3	250		----	----	----
14		(12.0)	3	----		----	----	----
15		(13.0)	3	250		<140	(3.70)	----
16		(12.0)	10	255		<135	(3.20)	(3.5)
17		(11.7)	11			120	(2.80)	(2.95)
18		(11.5)	16			----	<2.00	(3.0)
19		(11.1)	12			----	----	(3.15)
20		(10.0)	3			----	----	----
21		(8.0)	5			----	----	----
22		(8.0)	16			----	----	(3.3)
23		(6.7)	23			----	----	(3.1)

Time: 30.0°E.

Sweep: 1.5 Mc to 15.0 Mc.

Table 53
Freiburg, Germany (49.1°N, 7.6°E) July 1959

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		7.2	31	315			1.8	2.50
01		6.7	30	310			1.4	2.50
02		6.3	30	300			(1.9)	2.50
03		6.0	30	315			1.6	2.50
04	---	6.2	30	290			2.3	2.55
05	395	6.8	30	255	4.1	113	2.45	3.1
06	360	7.2	30	240	4.6	109	3.00	3.6
07	300	7.5	30	225	5.0	106	3.40	4.0
08	415	7.7	31	220	5.4	103	3.60	4.3
09	420	7.8	31	220	5.6	101	3.00	4.3
10	430	7.9	31	210	5.7	101	3.90	4.3
11	420	8.0	30	220	5.7	101	4.00	4.3
12	430	8.0	29	220	5.8	101	4.00	4.4
13	430	8.0	29	220	5.8	103	3.95	4.4
14	410	7.8	30	225	5.8	103	3.90	4.1
15	420	7.7	30	230	5.6	103	3.70	4.1
16	395	7.8	30	235	5.3	105	3.45	4.0
17	355	7.8	28	240	4.8	107	3.10	3.6
18	---	8.0	30	260	111	2.55	3.5	2.80
19		8.0	30	270	129	1.60	3.2	2.80
20		7.9	30	270			(3.6)	2.65
21		8.0	30	280			2.4	2.60
22		7.8	30	300			1.8	2.55
23		7.4	31	305			1.7	2.50

Time: 0.0°.

Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 54
Cape Canaveral, Florida (28.4°N, 80.6°W) June 1958

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		8.2	29	<315				2.55
01		8.0	29	<300				2.60
02		7.4	29	<300				2.60
03		7.0	29	<290				2.60
04		6.9	29	<300				2.60
05		6.6	29	<295				2.60
06		6.8	29	255				2.80
07	(405)	7.7	29	<240	4.7	111	(3.00)	3.8
08	(470)	7.8	23	(255)	5.0	109	3.50	4.4
09	445	8.7	29	220	5.6	107	(3.80)	4.4
10	440	8.5	29	(220)	5.7	107	(4.00)	4.6
11	430	8.6	29	(210)	5.8	<109	(4.30)	4.5
12	405	9.0	29	210	5.8	107	(4.30)	4.5
13	420	9.2	28	(215)	5.0	107	4.30	4.6
14	420	9.0	29	(220)	5.9	109	(4.20)	4.7
15	420	8.9	28	220	5.7	109	4.05	4.6
16	400	8.8	29	(225)	5.5	109	(3.85)	4.4
17	410	8.6	29	230	5.2	109	3.48	4.3
18	<360	8.6	29	<250	---	<119	----	3.7
19		8.5	29	275				2.65
20		8.5	29	<270				2.65
21		8.2	29	<300				2.65
22		8.0	29	<310				2.55
23		8.0	29	<320				2.60

Time: 75.0°W.

Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 55
Concepcion, Chile (36.6°S, 73.0°W) June 1950

Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	foEs	(M3000)F2
00		6.0	29	305				2.60
01		5.6	29	295				2.65
02		5.4	27	280				2.70
03		5.05	23	200				2.65
04		4.7	23	230				2.68
05		4.1	27	265				2.62
06		4.4	27	280				2.75
07		7.1	27	250	155	1.75	1.9	3.02
08		10.75	23	225	115	2.65		3.35
09		11.85	30	225	111	3.10	3.4	3.30
10		11.9	30	220	109	3.40	3.6	3.20
11		11.65	30	220	109	3.55	4.0	3.15
12		11.65	30	220	109	3.60	4.0	3.02
13		12.2	30	220	109	3.50	3.0	3.00
14		12.9	29	230	111	3.30		3.05
15		12.3	29	230	115	3.00		3.05
16		11.6	27	225	125	2.40	2.8	3.05
17		11.2	28	220	---	---	2.4	3.10
18		9.6	29	210			2.3	2.98
19		9.3	29	225				2.98
20		8.4	29	230				2.88
21		7.0	29	235			1.8	2.85
22		6.9	29	250				2.80
23		6.4	29	290				2.50

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 13.5 seconds.

Table 57
Buenos Aires, Argentina (34.5°S, 58.5°W) May 1950

Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	foEs	(M3000)F2
00		8.8	29	265				2.85
01		8.2	29	260				2.80
02		7.2	28	255				2.90
03		6.5	23	250			3.0	2.90
04		6.4	23	230				3.00
05		>4.7	26	225				2.50
06		4.5	27	315				2.60
07		8.6	27	260				3.00
08		11.8	29	240				3.25
09		13.5	29	235	---			3.10
10		14.0	30	230	---			3.10
11		13.6	30	235	---			2.95
12		13.5	29	230	---			2.85
13	(320)	14.4	28	230	---			2.80
14	---	15.0	30	240	---			2.85
15	---	14.8	30	245	---			2.90
16		14.4	29	245				2.90
17		14.2	31	240				3.00
18		13.1	31	235				<3.00
19		12.8	29	245				3.00
20		13.3	31	235				<3.05
21		11.4	31	235				<3.00
22		9.6	31	240				2.90
23		8.7	29	270				2.90

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 59
Singapore, British Malaya (1.3°N, 103.8°E) March 1950

Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	foEs	(M3000)F2
00		11.8	25	230	---	---	<1.2	2.65
01		11.2	27	250	120	---	<1.2	2.60
02		10.5	23	255	---	---	<1.1	2.65
03		10.2	26	250	120	1.00		2.85
04		9.1	29	235	125	1.10		2.95
05		8.0	28	240	125	1.15		2.95
06	---	7.0	27	250	130	1.45		2.80
07	---	10.9	30	255	135	2.70	2.9	2.90
08	---	12.7	31	250	145	3.45	3.9	2.60
09	---	14.0	30	240	110	3.90	4.1	2.30
10	---	14.2	29	230	110	4.15		2.05
11	---	14.2	28	220	110	4.40		1.85
12	---	>13.8	23	215	110	4.45		1.95
13	---	13.0	30	225	110	4.40		2.00
14	---	13.8	30	220	110	4.30		1.95
15	---	13.9	30	230	110	4.00		1.95
16	---	14.1	29	250	110	3.60		2.00
17	---	14.4	27	260	115	3.00		2.00
18	---	14.3	28	295	145	2.20		2.00
19		>13.3	18	390	---	---	1.0	---
20		>13.2	11	370	145	---	<1.3	---
21		>14.0	12	300	125	---	<1.5	---
22		>13.9	16	250	---	---	<1.5	---
23		>14.0	18	230	---	---	<1.3	(2.65)

Time: 105.0°E.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 56
Cape Canaveral, Florida (28.4°N, 80.6°W) May 1950

Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	foEs	(M3000)F2
00		8.0	21	310				2.55
01		7.8	21	300				2.55
02		7.4	21	<310				2.60
03		7.3	21	<300				2.60
04		7.3	21	(300)				2.65
05		7.0	21	<280				2.60
06		7.6	21	265	---	---	4.0	2.85
07		8.2	21	240	(111)	---	3.6	2.88
08	(390)	8.6	20	(225)	---	109	---	4.4
09	430	>9.15	20	215	5.5	109	(3.80)	4.0
10	(460)	9.95	18	210	5.6	109	---	4.2
11	(445)	9.7	15	210	5.8	107	(4.00)	4.4
12	455	10.2	17	(220)	(5.8)	109	(4.20)	4.4
13	440	9.4	15	220	6.0	107	4.12	4.2
14	415	10.35	18	(220)	6.0	109	(4.00)	4.3
15	415	10.3	18	<230	5.6	109	4.00	4.3
16	(410)	10.1	18	230	5.2	109	3.70	4.2
17	(440)	9.1	21	<240	---	(111)	3.30	3.8
18	---	9.2	22	(250)	---	<116	---	3.4
19		9.05	22	260				2.8
20		8.45	22	<270				2.8
21		8.1	22	<300				2.55
22		7.9	21	<320				3.1
23		8.0	21	<330				2.7

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 58
Cape Canaveral, Florida (28.4°N, 80.6°W) April 1950

Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	foEs	(M3000)F2
00		8.3	26	<310				(2.50)
01		8.05	24	<310				2.55
02		8.1	23	<295				2.60
03		7.8	23	(285)				2.55
04		7.65	24	<280				2.60
05		7.0	25	<280				2.60
06		7.7	24	275				2.75
07		(9.65)	24	240	(111)	2.68		(2.95)
08		(11.3)	25	225	(109)	(3.25)	3.4	2.85
09	---	12.1	26	220	---	109	3.65	2.75
10	---	12.7	25	210	---	109	(3.95)	2.65
11	---	13.0	27	220	---	107	(4.05)	2.55
12	---	13.1	27	225	---	109	(4.20)	2.55
13	(410)	13.3	27	230	(6.6)	109	(4.20)	2.52
14	(420)	13.0	26	230	(6.6)	111	(4.10)	2.50
15	---	12.9	27	230	---	110	3.92	2.55
16	---	12.1	26	<240	---	109	3.70	2.52
17	---	12.0	25	240	---	111	3.15	3.4
18		11.55	26	255	<119	(2.50)	2.7	2.65
19		(10.55)	26	250	---	---	---	(2.65)
20		>9.5	27	<260				(2.55)
21		(9.3)	27	<290				(2.55)
22		(9.0)	26	<300				(2.50)
23		(8.9)	26	<310				(2.55)

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 27 seconds.

Table 60
Port Lockroy (64.8°S, 63.5°W) March 1950

Time	h'F2	foF2—Count	h'F	fof1	h'E	foE	foEs	(M3000)F2
00		6.2	18	350	165	---	1.0	(2.45)
01		(6.2)	19	345	150	0.9	1.2	(2.30)
02		(5.6)	21	365	---	---	1.1	(2.35)
03		(5.0)	20	370	---	---	1.0	(2.30)
04		(5.0)	21	375	---	---	1.1	(2.30)
05	600	(4.9)	25	370	---	145	---	1.3
06	610	5.4	23	310	---	130	1.5	2.45
07		6.5	29	260	---	115	2.2	2.86
08	505	7.4	29	250	---	115	2.6	2.9
09	520	8.2	30	250	---	110	3.0	3.2
10	665	9.2	30	240	---	105	(3.2)	3.4
11	660	10.0	30	240	---	105	(3.2)	3.4
12		10.7	30	245	---	110	(3.4)	3.5
13		11.0	30	245	---	110	(3.3)	3.3
14		10.6	30	245	---	110	3.3	2.90
15		10.0	30	240	---	110	3.1	2.90
16		9.9	29	245	---	115	2.8	2.95
17		9.8	30	245	---	125	2.4	2.95
18		9.8	30	250	---	125	2.1	2.95
19		9.2	23	255	---	---	1.6	1.7
20		8.6	27	260	---	---	---	1.3
21	(7.8)	26	270	---	---	---	---	1.3
22		7.1	24	300	---	---	<1.3	(2.35)
23		(6.6)	22	325	---	---	0.8	6

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 61

Tucuman, Argentina (26.9°S, 65.4°W) February 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M(3000)F2)
00	(15.1)	21	(290)				(2.77)
01	>15.0	21	(270)				(2.90)
02	14.0	23	240			1.9	
03	>10.6	23	(215)			1.7	2.09
04	8.9	22	(260)			1.7	2.62
05	7.8	25	(250)				2.60
06	7.9	23	275		1.85		2.73
07	>9.8	23	240	102	2.70	2.9	(3.00)
08	>11.4	24	230	101	3.20	3.6	(3.03)
09	12.7	23	225	101	---	4.2	2.86
10	(13.2)	22	215	---	(103)	---	(2.77)
11	---	(13.8)	21	(205)	---	(101)	4.0
12	---	>14.0	15	(205)	---	(101)	5.3
13	(420)	>14.5	16	---	6.9	---	4.9
14	400	>14.5	11	---	7.0	---	---
15	400	>14.1	11	(200)	6.8	101	---
16	395	>14.1	16	<230	6.5	(103)	---
17	400	>14.0	17	235	---	111	4.0
18	---	14.0	19	(255)	---	111	3.7
19		>13.6	13	290	---	---	2.7
20		>13.9	10	(345)	---	---	2.6
21		>13.8	11	(330)	---	---	2.2
22		>13.4	15	(315)	---	---	---
23		>13.6	16	(295)	---	---	---

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 62

Buenos Aires, Argentina (34.5°S, 50.5°W) February 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M(3000)F2)
00	10.9	25	300				2.7
01	11.0	26	280				2.4
02	9.7	26	260			---	3.4
03	8.6	25	270				3.4
04	7.4	24	260				3.5
05	7.3	25	340				3.4
06	4.4	26	260		145	2.40	3.0
07	10.1	27	245		117	3.00	3.9
08	---	11.2	26	235	(6.0)	116	3.55
09	---	11.6	26	230	(7.0)	112	---
10	(460)	12.7	28	220	(7.0)	111	---
11	(415)	13.1	28	230	(7.0)	111	---
12	100	14.0	28	220	7.0	111	---
13	385	14.2	28	210	(7.0)	111	---
14	375	14.4	28	(220)	6.6	117	---
15	360	14.0	28	235	(6.6)	113	---
16	370	13.9	27	240	6.3	117	3.70
17	340	13.7	27	250	(6.0)	121	---
18	---	13.1	27	275	---	116	---
19		12.8	27	300	---	---	4.1
20		12.4	27	310	---	---	4.3
21		12.5	25	310	---	---	4.5
22		11.8	26	320	---	---	2.7
23		11.5	24	310	---	---	2.6

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 63

Port Lockroy (64.8°S, 63.5°W) February 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M(3000)F2)
00	8.8	22	320			---	1.4
01	8.4	24	325			---	1.4
02	(8.0)	22	345	---		---	1.4
03	440	7.2	22	350		145	---
04	470	6.6	24	355		105	1.7
05	470	7.0	24	305	---	105	1.9
06	>430	7.6	26	270	4.0	100	2.2
07	>440	7.8	26	255	(4.3)	100	2.7
08	>475	7.4	26	245	4.6	100	(3.1)
09	>455	7.4	25	245	4.8	100	(3.4)
10	400	7.8	25	245	5.1	100	(3.6)
11	>450	8.3	26	240	5.2	100	(3.7)
12	>460	8.1	26	235	5.3	100	(3.7)
13	440	8.1	26	240	---	100	---
14	385	8.2	26	240	---	100	3.6
15	400	8.0	26	240	---	105	3.5
16		8.0	26	245	---	105	3.2
17		8.1	26	250	---	105	3.1
18		8.3	26	255	---	105	2.8
19		8.4	26	265	---	110	2.4
20		8.7	25	275	---	105	2.0
21		8.8	25	300	---	105	1.6
22		8.0	27	300	---	---	1.4
23		9.0	25	315	---	---	1.2

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 64

Luero, Belgian Congo (2.3°S, 28.8°E) January 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M(3000)F2)
00	>11.7	22	270				(1.6)
01	11.3	23	290				(1.6)
02	(10.2)	23	265				(1.7)
03	8.6	23	235				(1.6)
04	7.8	23	245				(1.5)
05	6.3	22	240				(1.5)
06	>6.8	20	280				(1.7)
07	9.4	19	255		---	E	---
08	---	10.4	19	245	---	111	3.40
09	---	11.0	23	240	---	111	3.85
10	---	11.6	24	235	---	111	4.20
11	(400)	12.7	23	230	---	109	4.30
12	495	13.5	24	230	---	109	4.40
13	530	13.2	24	230	---	111	4.30
14	575	13.1	22	225	---	111	4.20
15	540	13.6	23	230	---	111	3.95
16	490	13.7	24	245	---	113	3.60
17	(470)	13.4	24	260	---	115	3.10
18		>11.9	24	305	121	2.10	(2.6)
19		>12.1	24	395	---	---	(1.9)
20		>12.0	24	395	---	---	(1.8)
21		>11.6	24	330	---	---	(1.6)
22	(12.6)	23	275				(1.8)
23	>12.0	23	260				(1.6)

Time: 30.0°E.
Sweep: 1.25 Mc to 20.0 Mc in 3 minutes.

Table 65

Buenos Aires, Argentina (34.5°S, 50.5°W) January 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M(3000)F2)
00	10.7	29	360				3.0
01	10.0	28	330				2.7
02	9.3	29	330				2.2
03	8.8	29	330				2.35
04	8.0	29	360				2.30
05	8.0	29	300		170	(1.00)	2.5
06	9.0	27	260		120	2.00	3.1
07	---	9.8	29	245	---	119	3.35
08	---	10.6	30	<240	6.8	117	---
09	(485)	11.4	29	240	6.9	113	4.10
10	505	11.9	29	240	7.0	111	---
11	495	12.4	30	<235	7.0	111	---
12	480	13.0	29	(230)	6.8	115	---
13	460	>13.2	30	230	6.8	114	---
14	440	13.2	28	(235)	6.6	115	---
15	435	12.6	27	240	6.4	111	---
16	430	11.7	30	(245)	6.0	118	---
17	420	11.2	30	250	5.8	122	3.40
18	(400)	11.0	30	270	---	127	---
19		11.5	30	(335)	---	---	4.0
20		11.6	28	<400	---	---	4.0
21		11.6	27	410	---	---	3.2
22		11.8	24	385	---	---	3.4
23		>10.8	26	365	---	---	2.40

Time: 60.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds.

Table 66

Port Lockroy (64.8°S, 63.5°W) January 1958							
Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs (M(3000)F2)
00	10.2	22	345		110	<1.6	2.25
01	395	10.4	21	355	115	(1.5)	1.6
02	405	10.7	19	345	105	<1.6	1.8
03	405	10.7	19	335	---	105	1.8
04	415	10.7	20	305	---	100	2.1
05	420	10.5	24	285	4.0	100	2.5
06	440	10.0	24	270	4.8	105	2.8
07	435	9.6	25	250	(5.1)	100	3.1
08	455	8.8	24	250	5.3	100	3.5
09	450	8.6	27	245	5.3	100	(3.7)
10	465	8.5	25	240	5.8	100	3.7
11	495	8.4	25	235	6.0	100	3.8
12	490	8.2	24	230	5.8	100	(3.9)
13	475	8.0	22	235	5.9	100	3.9
14	510	7.7	24	240	6.1	100	3.9
15	500	7.6	25	245	5.8	100	3.8
16	470	7.7	22	250	(5.7)	100	3.7
17	455	7.5	24	250	---	100	(3.5)
18	450	7.6	25	255	---	100	(3.1)
19	425	7.7	25	265	---	105	(2.9)
20		8.0	25	275	---	105	2.4
21		8.4	24	300	---	105	1.9
22		(9.0)	22	325	---	105	1.6
23		>9.4	24	345	---	105	<1.6

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 67
Singapore, British Malaya (1.3°N, 103.8°E) December 1957

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.7 30	315		130	----	<1.2	2.20
01		10.5 29	320		120	----	<1.2	2.30
02		10.0 31	305			----	<1.1	2.45
03		9.0 30	300		130	----	<1.0	2.50
04		8.4 29	295		130	----	<1.0	2.50
05		7.6 29	270			----	<1.0	2.60
06		7.4 30	300		140	1.80	1.9	2.55
07		9.0 30	265		120	2.95		2.55
08		10.5 31	250		110	3.65		2.35
09		11.0 31	245		110	4.05		2.00
10	550	11.3 31	240		105	4.30		1.80
11	640	11.8 31	235		105	<4.50		1.75
12	595	12.3 30	235	---	105	4.50		1.75
13	600	12.0 30	225	---	105	4.45		1.70
14	600	11.8 30	235	---	110	4.25		1.65
15	560	11.6 31	245	---	110	3.95		1.65
16		11.6 30	250		115	3.60		1.70
17		11.5 30	295		120	2.90	2.9	1.75
18		>11.3 30	340		115	<1.90	3.2	1.00
19		11.3 31	410		145	----	3.2	1.00
20		>11.3 28	425			----	1.05	
21		11.2 30	365			----	2.9	2.05
22		10.9 30	340			----	2.5	2.10
23		10.7 30	300			----	<1.3	2.10

Time: 105.0°E.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 69
Lwiro, Belgian Congo (2.3°S, 28.8°E) September 1957

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>10.0 26	215				(1.7)	(2.94)
01		>9.8 23	240				(1.6)	(2.73)
02		>9.9 20	240				(1.6)	<2.93
03		9.8 21	235				(1.8)	(2.87)
04		8.8 20	235				(1.8)	3.05
05		7.6 21	230				(1.6)	3.28
06		7.0 17	250				(2.1)	3.20
07	---	>10.0 19	240		121	2.90		(3.32)
08	(250)	>10.8 18	230		---	3.55		<3.16
09	(230)	(12.6) 25	220		---	3.90	4.4	2.84
10	---	>12.0 23	220	---	---	4.20	4.4	2.63
11	(415)	>12.7 24	210	---	---	4.30		2.44
12	410	>10.0 25	205	(5.3)	---	4.40		(2.43)
13	440	>12.6 23	205	---	---	4.30		(2.34)
14	475	>10.0 21	210	---	---	4.10		
15	470	>11.4 24	220	---	---	3.90		----
16	470	>12.5 26	235		111	3.50		(2.36)
17	---	>10.0 28	255		115	2.90	3.1	----
18		>12.6 26	300				(2.0)	(2.73)
19		>10.0 27	360				(1.9)	----
20		>10.0 27	305				1.3	----
21		>9.8 29	240					----
22		>10.0 28	220				(1.6)	(2.86)
23		>10.0 27	215					(2.77)

Time: Local.
Sweep: 1.25 Mc to 25.0 Mc in 3 minutes.

Table 71
Lwiro, Belgian Congo (2.3°S, 28.8°E) August 1957

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>10.0 24	205				(1.7)	(3.00)
01		>9.6 24	200				(1.8)	(3.10)
02		>9.0 23	215				(1.9)	3.02
03		8.0 23	225				(2.0)	3.05
04		7.5 23	230				(2.0)	3.16
05		>7.0 22	230				(2.1)	3.10
06		>7.0 22	260				(2.0)	3.18
07	250	10.4 22	245		120	2.60		3.39
08	260	12.1 23	235		111	3.30	3.8	3.30
09	270	12.5 27	230	---	111	3.70	4.4	3.25
10	305	12.2 27	215	(5.1)	111	4.00	4.6	2.93
11	(325)	12.5 27	210	(5.2)	109	4.20		2.80
12	360	12.7 27	200	(5.3)	109	4.25		2.69
13	390	>12.7 29	210	(5.2)	111	4.20		2.59
14	405	>13.0 27	210	---	111	4.05		(2.56)
15	415	>12.8 26	215		111	3.85		(2.54)
16	400	>13.0 28	230		111	3.55		2.53
17	(395)	>13.2 26	240		115	2.85	3.3	(2.65)
18		(13.5) 27	275		---	1.65		(2.7)
19		>13.2 27	300				(2.6)	<2.83
20		>10.0 27	300				(2.2)	----
21		>10.0 24	235				(1.8)	<3.40
22		>9.8 24	210				(1.7)	----
23		>10.0 24	210				(1.8)	<3.42

Time: Local.
Sweep: 1.25 Mc to 25.0 Mc in 3 minutes.

Table 68
Port Lockroy (64.8°S, 63.5°W) November 1957

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		10.1 26	350		160	---	1.2	2.30
01		10.2 25	355		140	---	1.1	2.30
02	445	10.2 22	360		110	1.4	1.4	2.25
03	425	10.3 21	350		110	1.6	1.6	2.15
04	450	10.1 27	310	3.6	120	1.9	2.4	2.20
05	445	10.3 27	290	4.0	110	2.4	2.9	2.20
06	455	9.6 28	265	4.5	110	2.8	3.3	2.20
07	>475	9.5 27	250	5.0	105	3.2	3.8	2.20
08	>495	9.0 28	250	5.0	105	3.4	4.4	2.20
09	>505	8.6 28	245	5.4	105	3.7	4.4	2.25
10	>540	8.4 28	240	5.4	105	3.7	4.3	2.30
11	>520	8.2 28	240	5.6	105	---	4.4	2.30
12	>505	8.2 28	240	5.6	105	3.9	4.0	2.35
13	>510	7.9 29	240	5.6	105	3.9	4.2	2.40
14	>495	7.9 29	245	(5.4)	105	3.8	3.8	2.40
15	495	7.9 29	245	5.4	105	3.7	4.0	2.45
16	490	7.8 29	250	---	105	3.5	3.5	2.45
17	450	7.9 28	255	---	110	3.3		2.50
18		8.2 26	265		110	2.8	3.2	2.50
19		8.4 27	275		115	2.5	2.5	2.50
20		8.6 24	300		130	2.2		2.40
21		8.8 25	320			1.7	1.8	2.30
22		9.1 23	345			1.6	1.6	2.30
23		10.1 24	350			---	1.4	2.30

Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 70
Port Lockroy (64.8°S, 63.5°W) September 1957

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		(6.0) 15	345					2.30
01		5.8 16	350		---	---		2.30
02		5.4 16	355		---	---		(2.45)
03		5.2 12	330		---	---		(2.45)
04		4.9 15	330		---	---		(2.40)
05		4.8 20	305		---	1.2		2.50
06		6.0 20	265		175	1.6		2.75
07		6.8 21	240		120	2.0		3.00
08		7.8 24	230		115	2.6		3.10
09		9.6 24	235		115	3.0	3.0	3.10
10		10.7 23	235		115	3.2	3.2	3.10
11		11.1 23	225		110	3.4		3.00
12		11.5 24	235		110	3.4		2.95
13		11.4 23	235		110	3.4		3.05
14		10.7 26	235		115	3.2		3.00
15		10.2 25	240		115	3.0		3.00
16		9.5 25	240		115	2.7		3.10
17		>9.2 24	245		120	2.2		3.05
18		>9.0 21	245		140	1.7		2.95
19		8.4 18	240		---	---		2.95
20		7.0 18	245		---	---	0.9	2.70
21		6.3 13	265		---	1.1		(2.60)
22		6.1 15	295		---	---		2.55
23		(5.8) 14	325		---	---		(2.45)

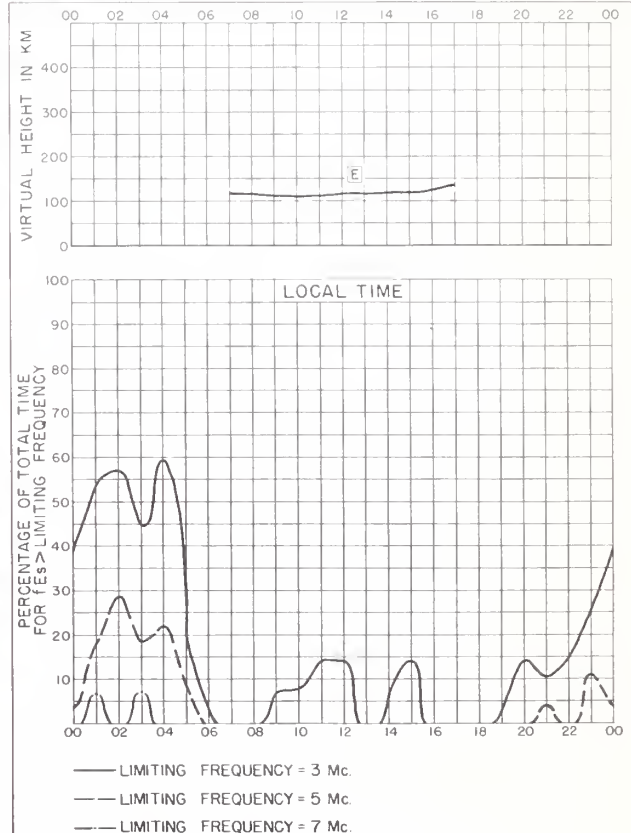
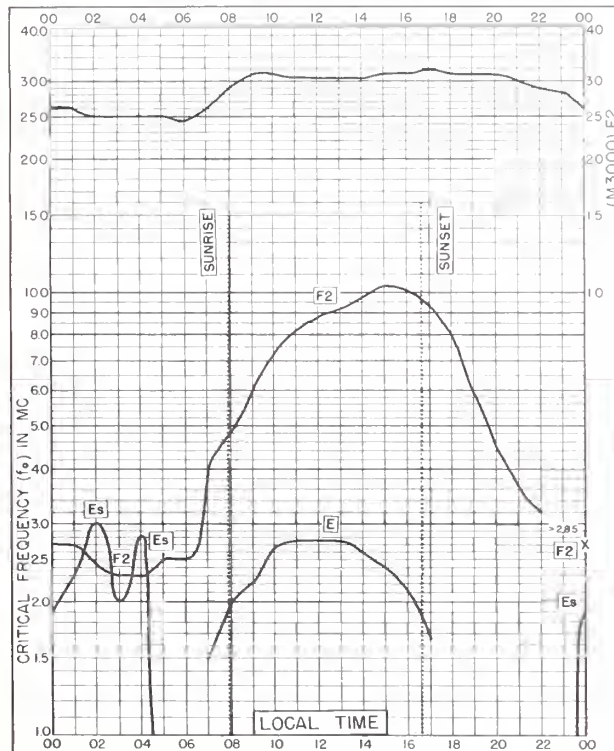
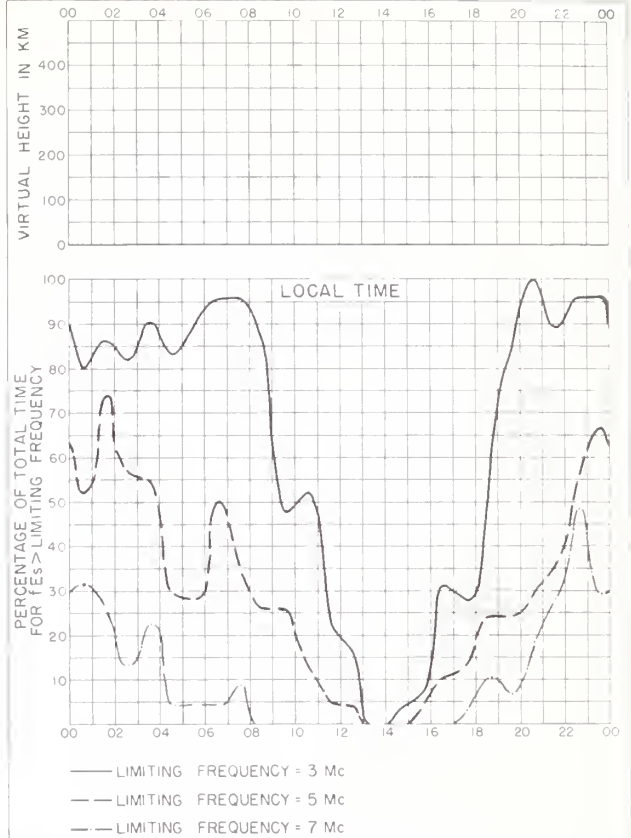
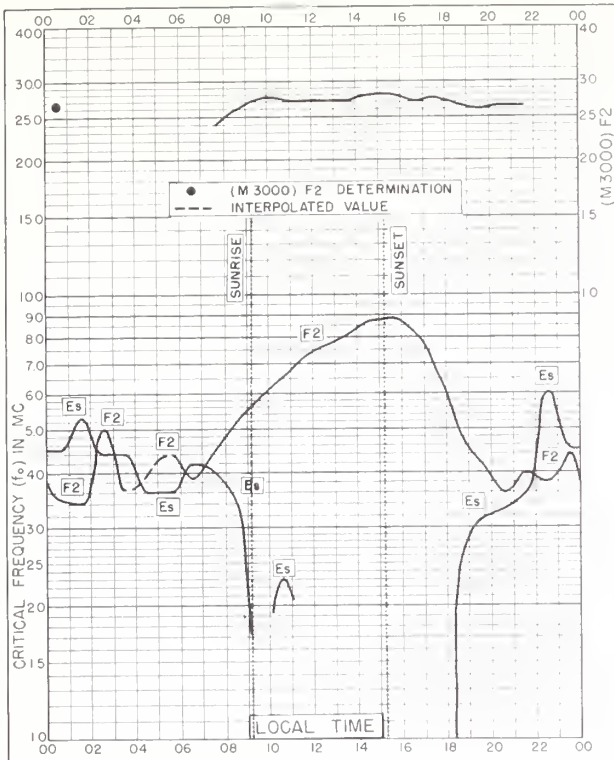
Time: 60.0°W.
Sweep: 0.67 Mc to 25.0 Mc in 5 minutes, automatic operation.

Table 72
Lwiro, Belgian Congo (2.3°S, 28.8°E) July 1957

Time	h'F2	foF2—Count	h'F	foF1	h'E	foE	foEs	(M3000)F2
00		>10.0 27	215				2.2	(2.98)
01		>10.0 27	210				2.0	<3.02
02		(9.4) 27	210				1.9	(2.83)
03		8.7 27	225				2.1	2.99
04		>8.2 25	230				2.1	3.00
05		7.5 25	230				2.2	3.19
06		8.1 25	255		---	E	2.1	3.04
07	(265)	11.1 24	245		119	2.55	3.6	<3.20
08	260	13.2 23	240		111	3.25	3.8	3.33
09	270	12.3 27	230		111	3.65	4.0	3.17
10	305	12.4 28	220	---	109	3.90		2.98
11	340	12.8 28	212	(5.2)	109	4.10		2.81
12	370	13.0 26	210	(5.3)	109	4.20		2.68
13	395	13.0 27	210	(5.2)	109	4.15		2.57
14	425	12.9 25	215	---	111	4.00		2.49
15	425	>13.1 26	220	---	111	3.80	3.9	2.49
16	(400)	>13.5 26	240		111	3.45	3.8	2.51
17	---	>13.4 27	250		113	2.85	3.5	2.55
18	---	>13.6 27	270		---	2.00	3.1	2.62
19		>13.4 27	290				2.8	2.91
20		>11.5 27	295				2.8	----
21		>9.7 27	235				2.0	----
22		>10.0 27	220				1.9	----
23		>12.6 27	225				2.4	<3.22

Time: Local.
Sweep: 1.25 Mc to 25.0 Mc in 3 minutes.

USCMB-NPS-PL



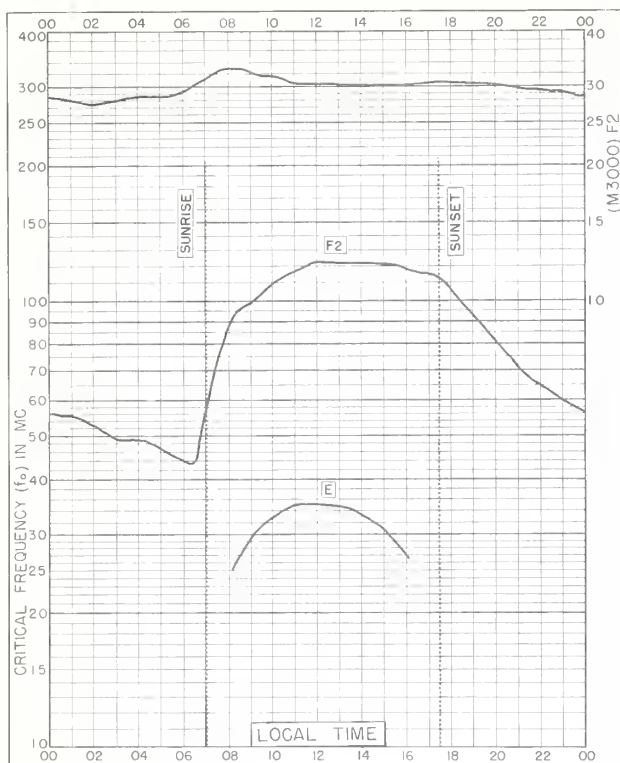


Fig 5. FT. MONMOUTH, NEW JERSEY
40.4°N, 74.1°W
FEBRUARY 1960

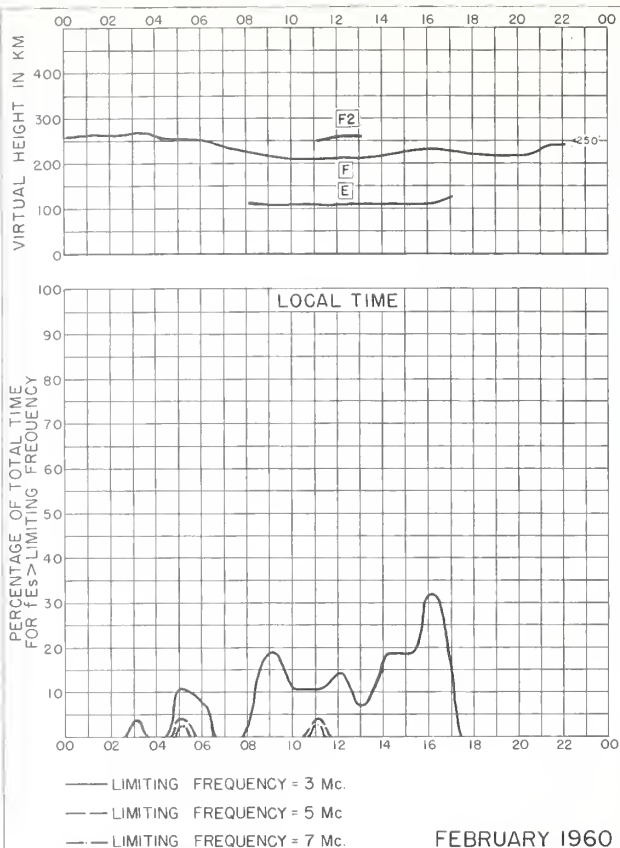


Fig 6. FT. MONMOUTH, NEW JERSEY

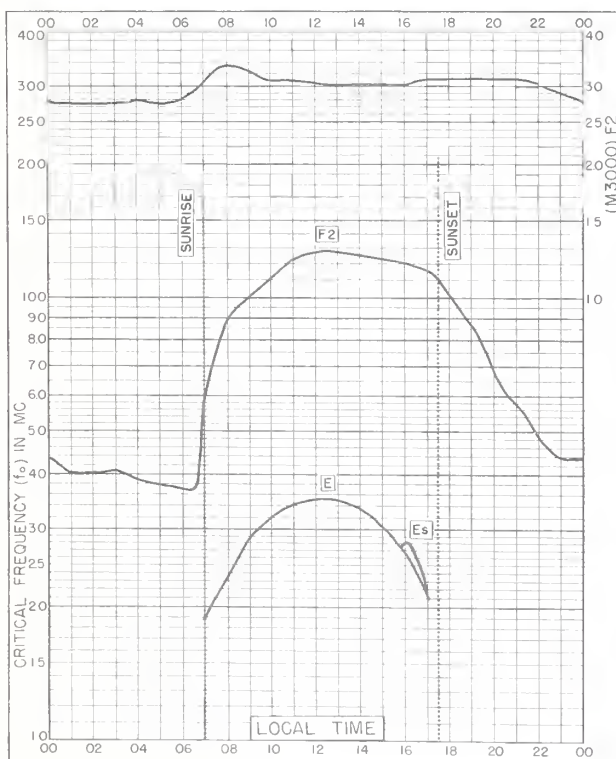


Fig 7. BOULDER, COLORADO
40.0°N, 105.3°W
FEBRUARY 1960

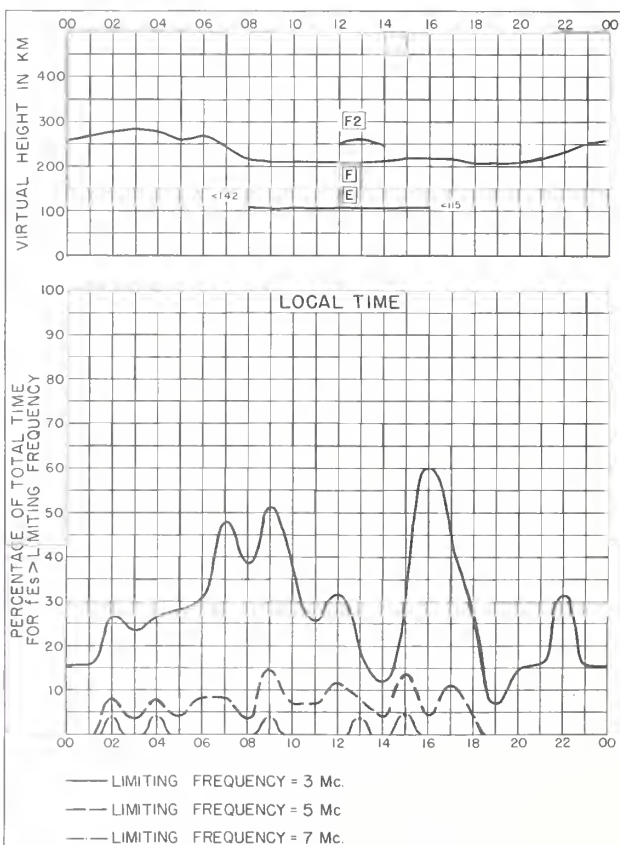


Fig 8. BOULDER, COLORADO
FEBRUARY 1960

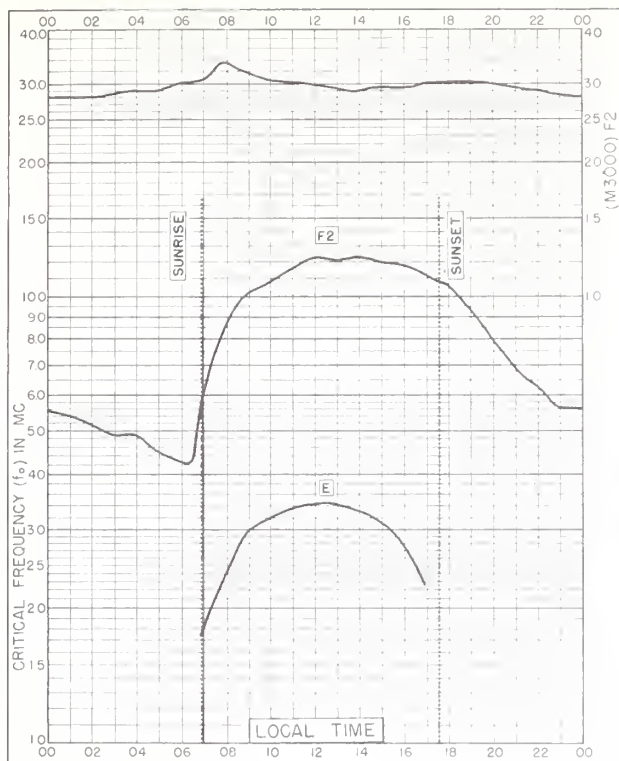


Fig. 9. WASHINGTON, D. C.
38.7°N, 77.1°W FEBRUARY 1960

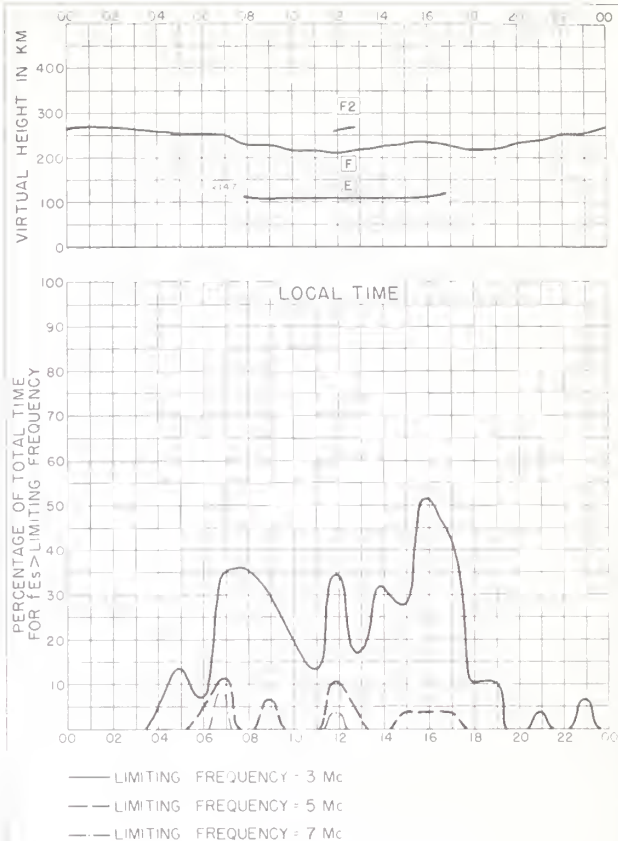


Fig. 10. WASHINGTON, D. C. FEBRUARY 1960

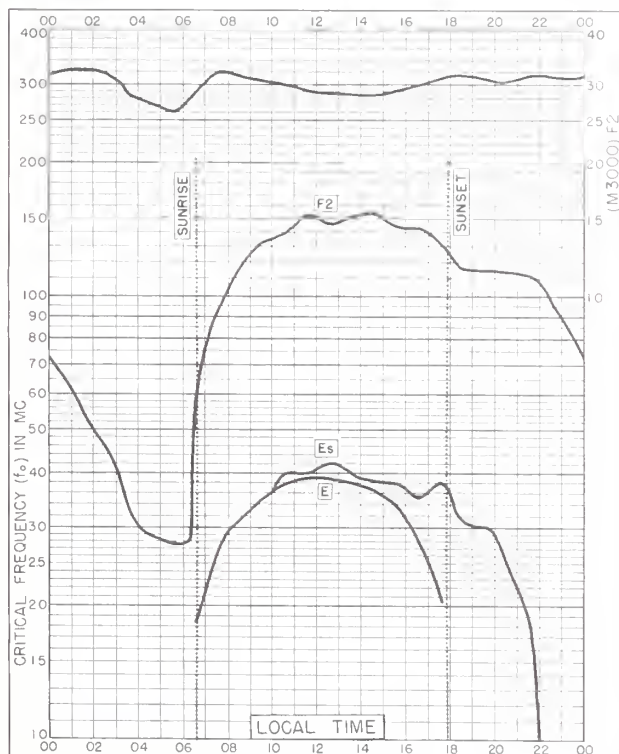


Fig. 11. MAUI, HAWAII
20.8°N, 156.5°W FEBRUARY 1960

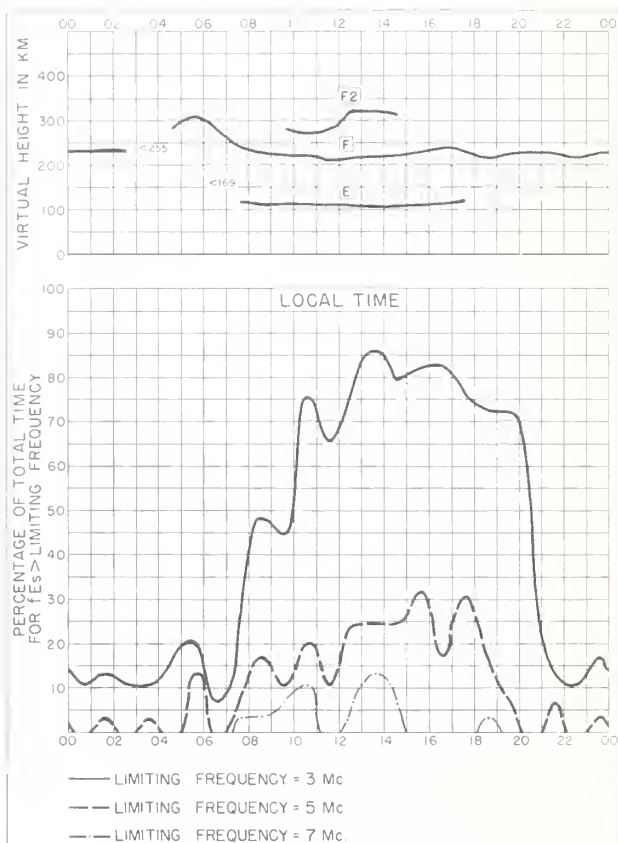


Fig. 12. MAUI, HAWAII FEBRUARY 1960

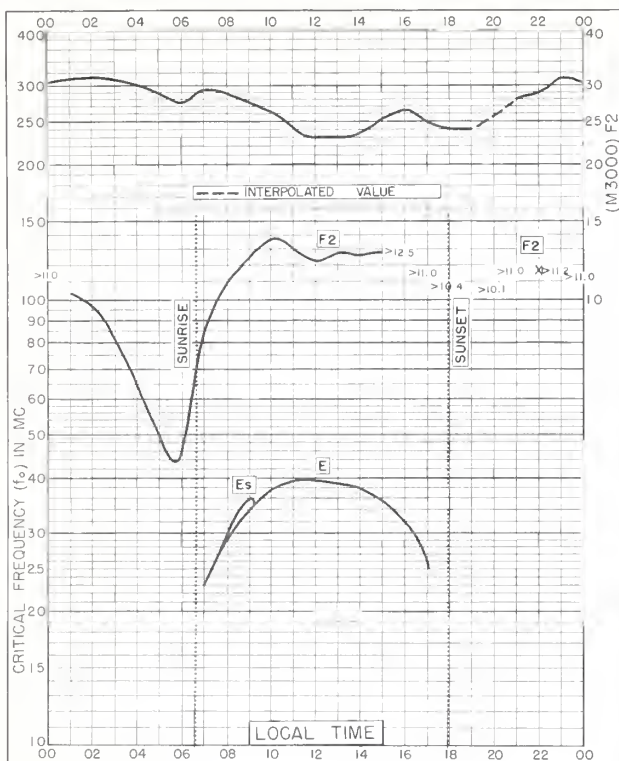


Fig. 13. BAGUIO, P. I.
16.4°N, 120.6°E FEBRUARY 1960

NBS 503

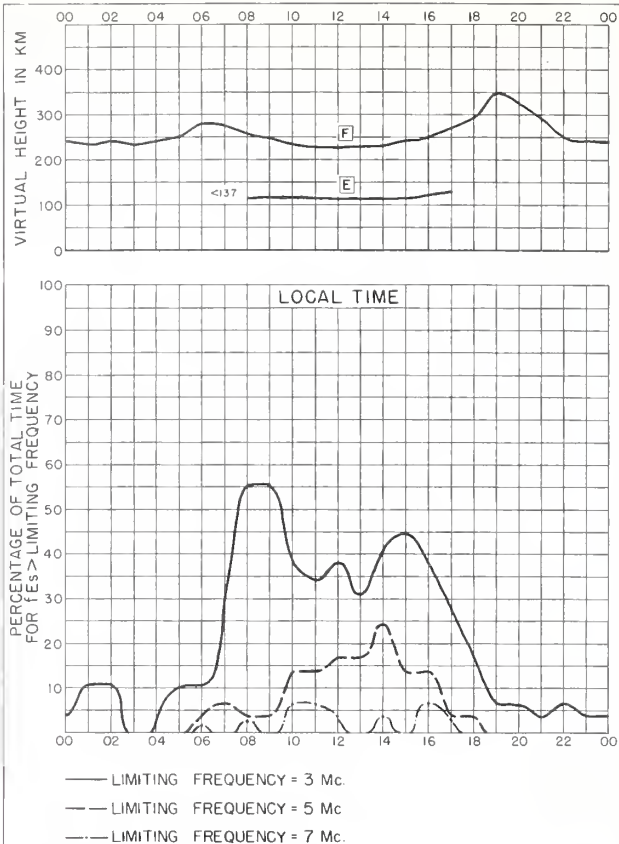


Fig. 14. BAGUIO, P. I. FEBRUARY 1960

NBS 490

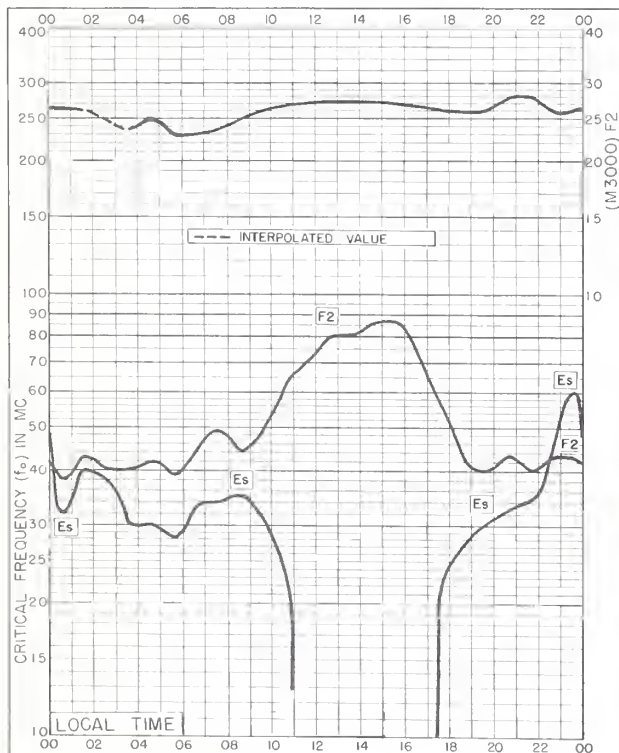


Fig. 15. POINT BARROW, ALASKA
71.3°N, 156.8°W JANUARY 1960

NBS 503

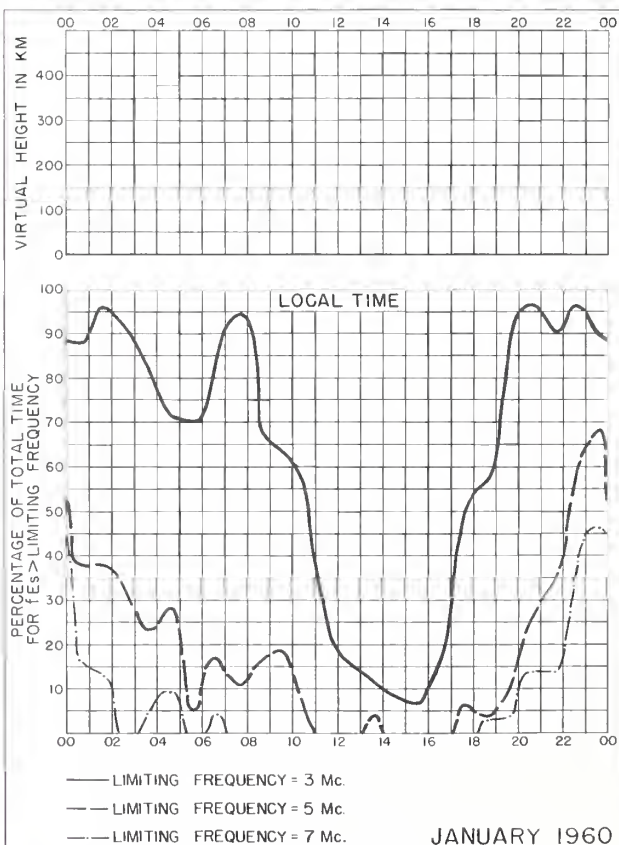


Fig. 16. POINT BARROW, ALASKA JANUARY 1960

NBS 490



Fig. 21. ANCHORAGE, ALASKA
61.2°N, 149.9°W

JANUARY 1960

NBS 503

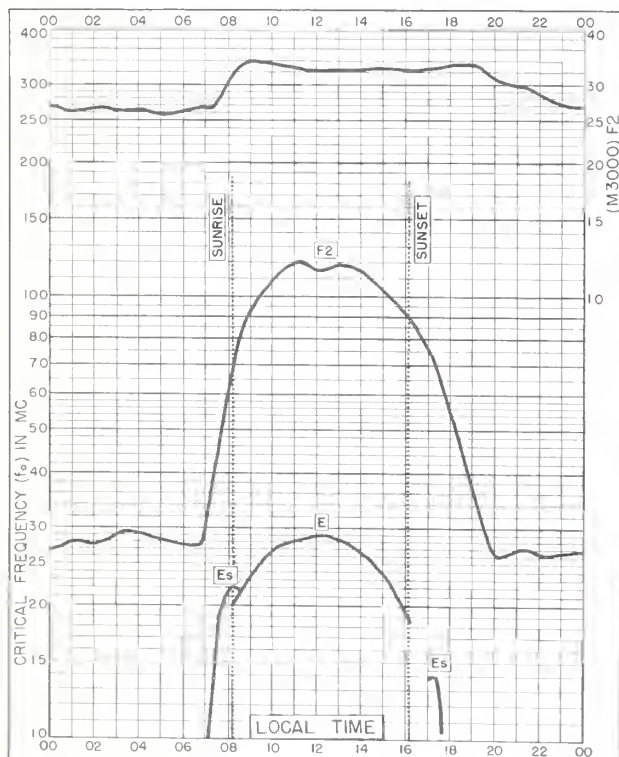


Fig. 23. ADAK, ALASKA
51.9°N, 176.6°W

JANUARY 1960

NBS 503

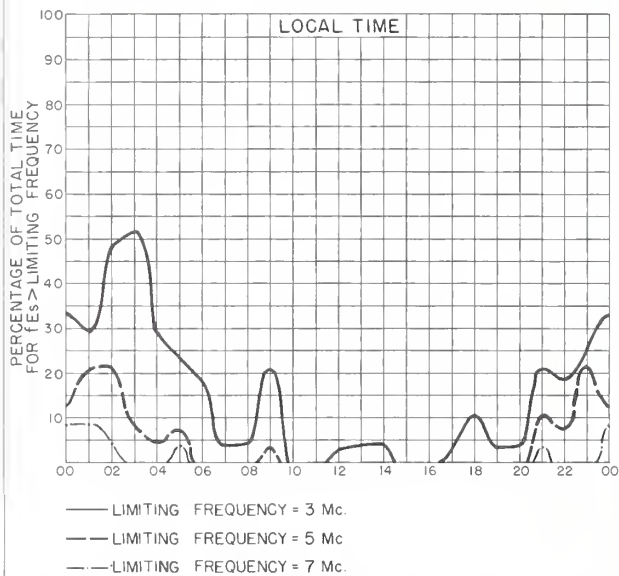
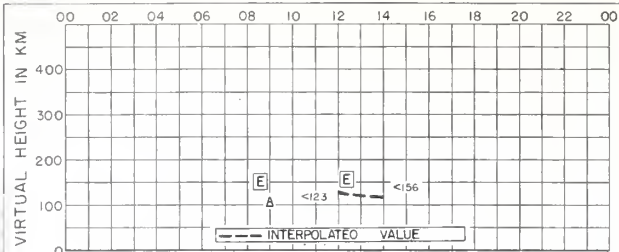


Fig. 22. ANCHORAGE, ALASKA JANUARY 1960

NBS 490

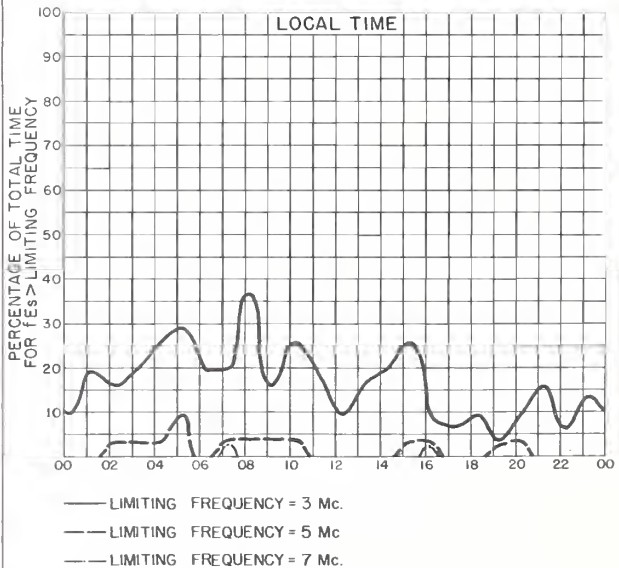
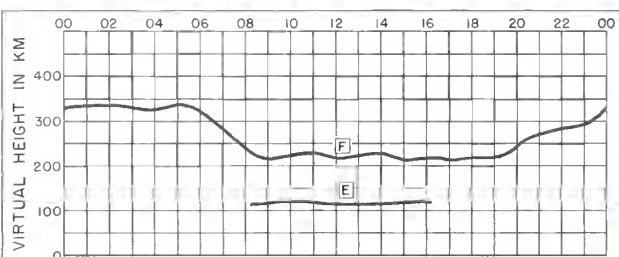


Fig. 24. ADAK, ALASKA

JANUARY 1960

NBS 490

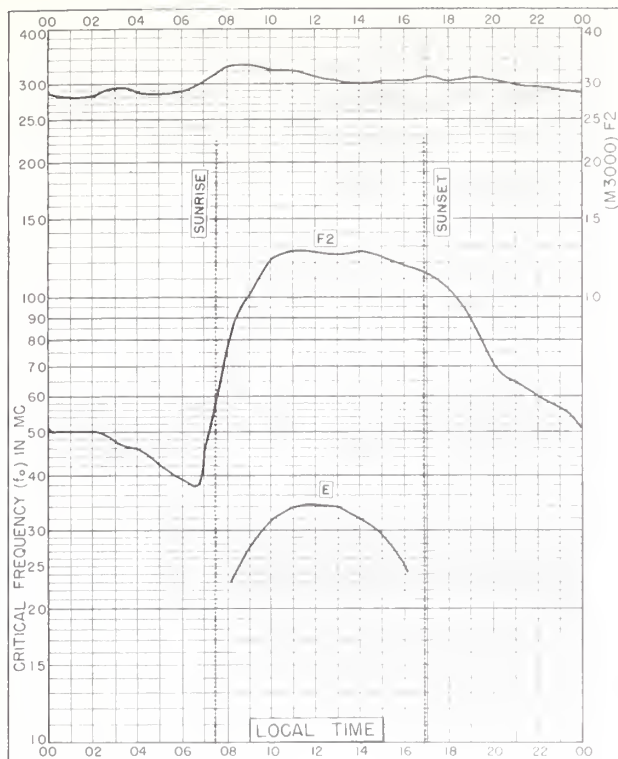


Fig 25. FT. MONMOUTH, NEW JERSEY
40.4°N, 74.1°W JANUARY 1960

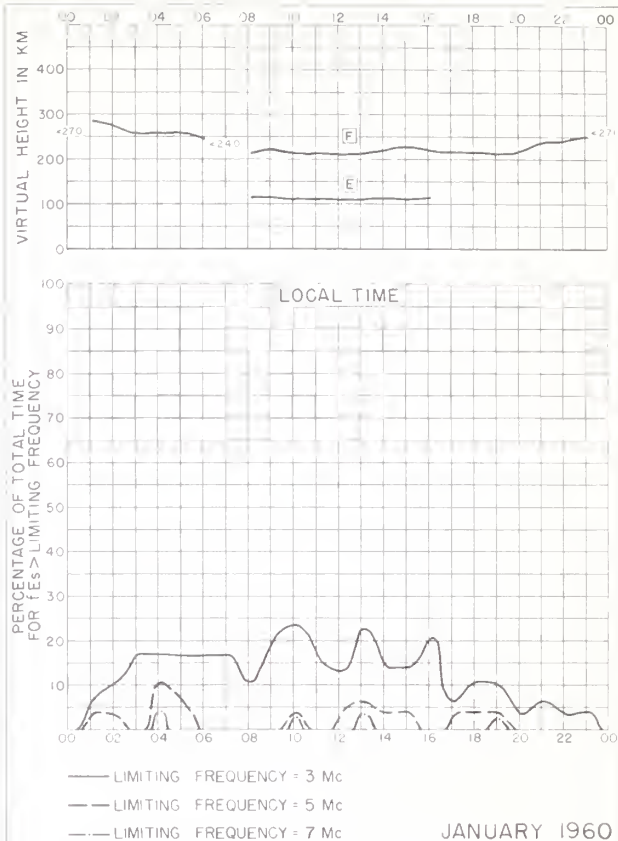


Fig 26 FT MONMOUTH, NEW JERSEY

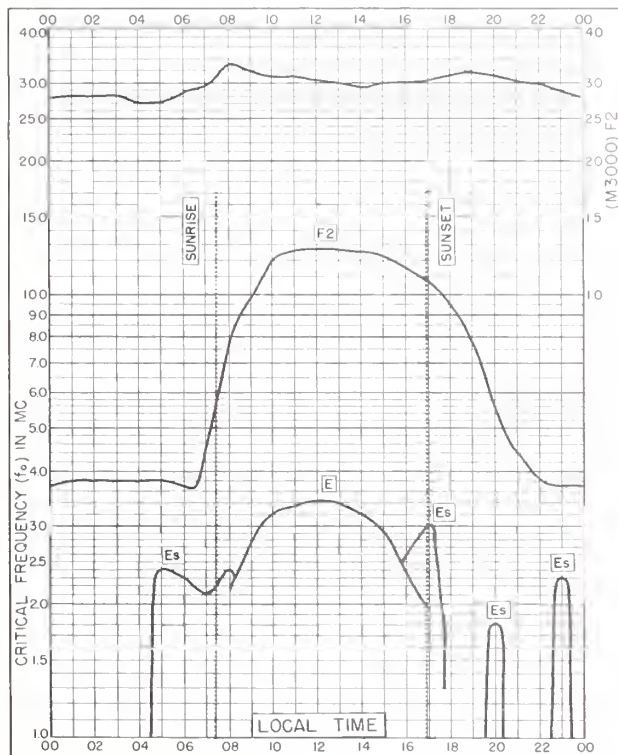


Fig 27. BOULDER, COLORADO
40.0°N, 105.3°W JANUARY 1960

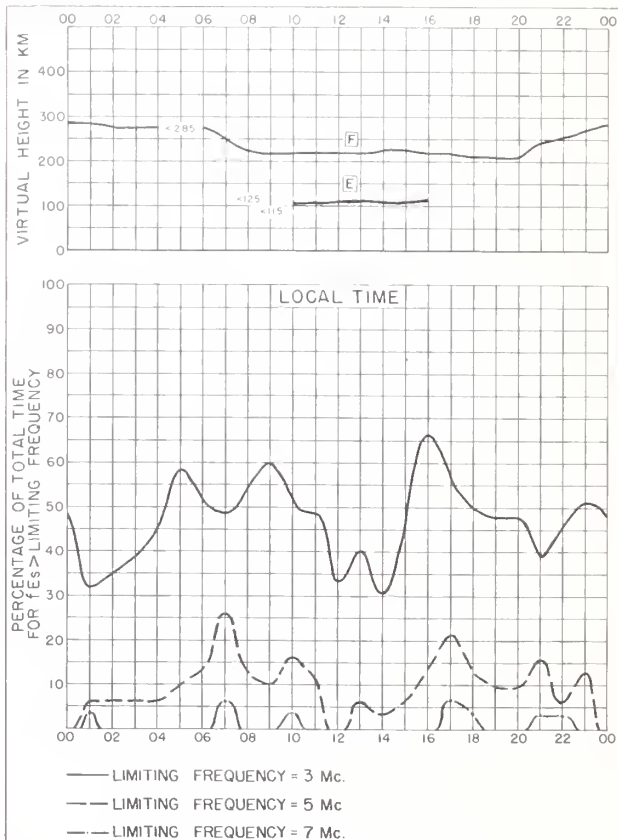


Fig 28. BOULDER, COLORADO JANUARY 1960

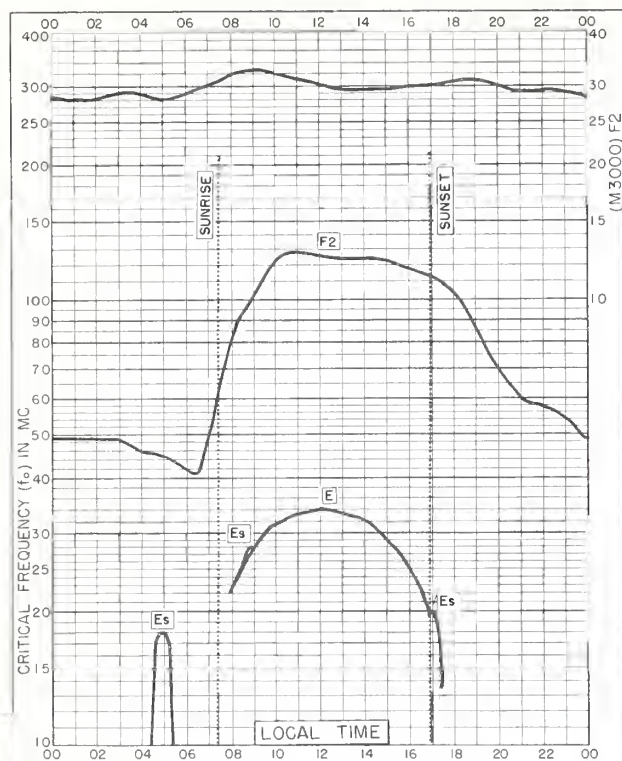


Fig. 29 WASHINGTON, D. C.
38.7°N, 77.1°W JANUARY 1960

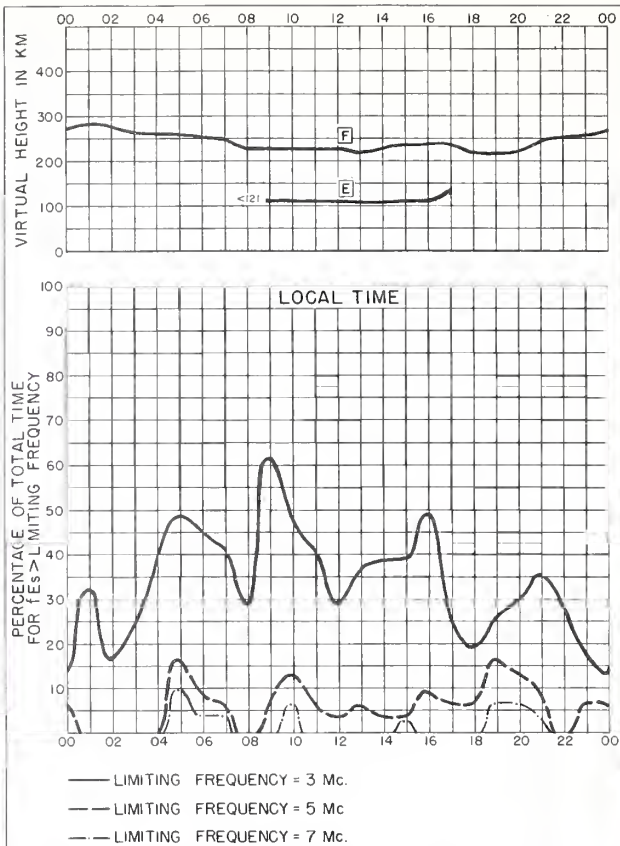


Fig. 30 WASHINGTON, D. C. JANUARY 1960

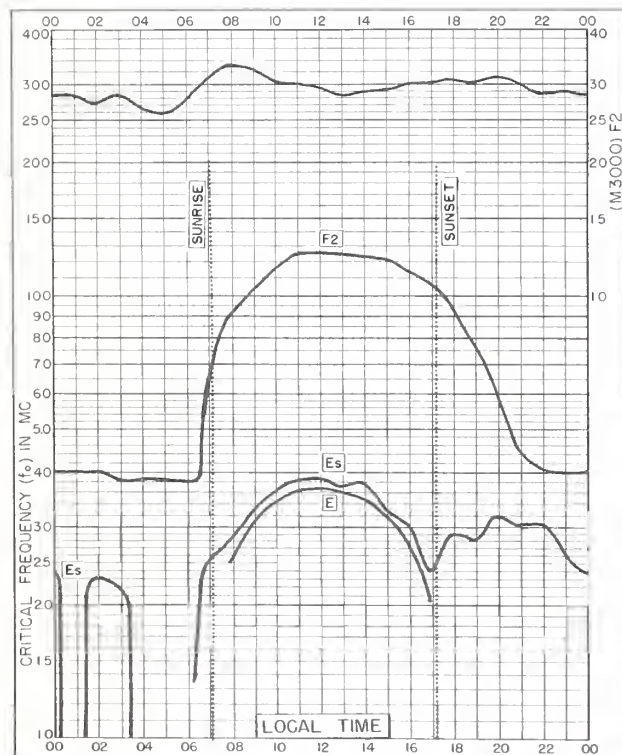


Fig. 31 WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W JANUARY 1960

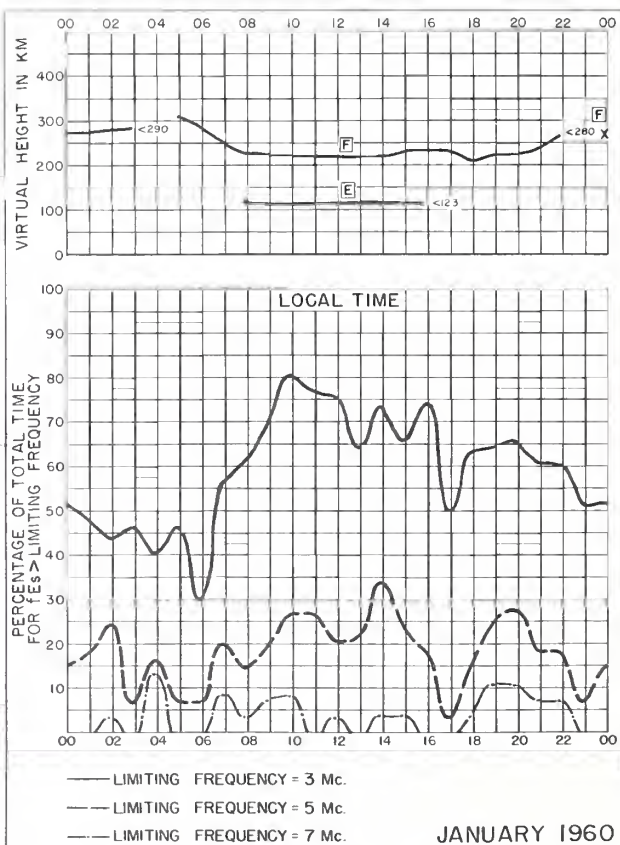


Fig. 32 WHITE SANDS, NEW MEXICO

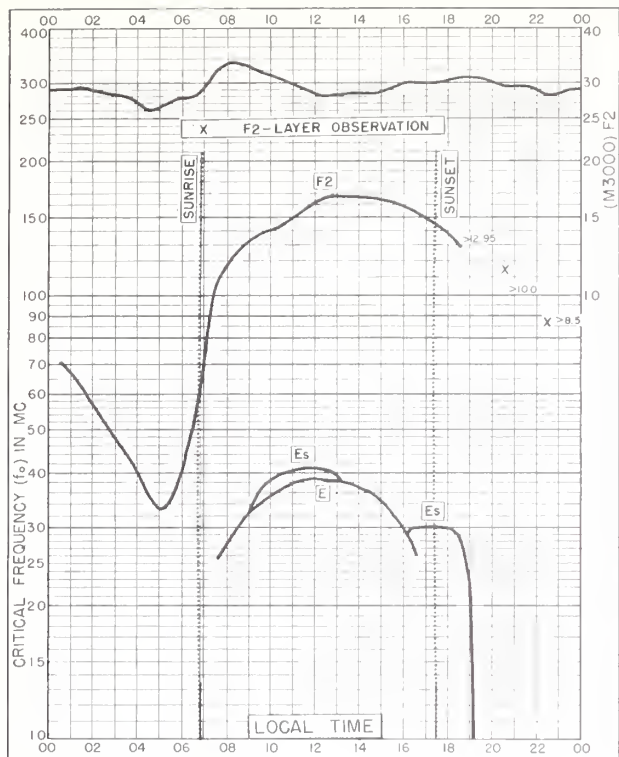


Fig. 33. OKINAWA I.
26.3°N, 127.8°E JANUARY 1960

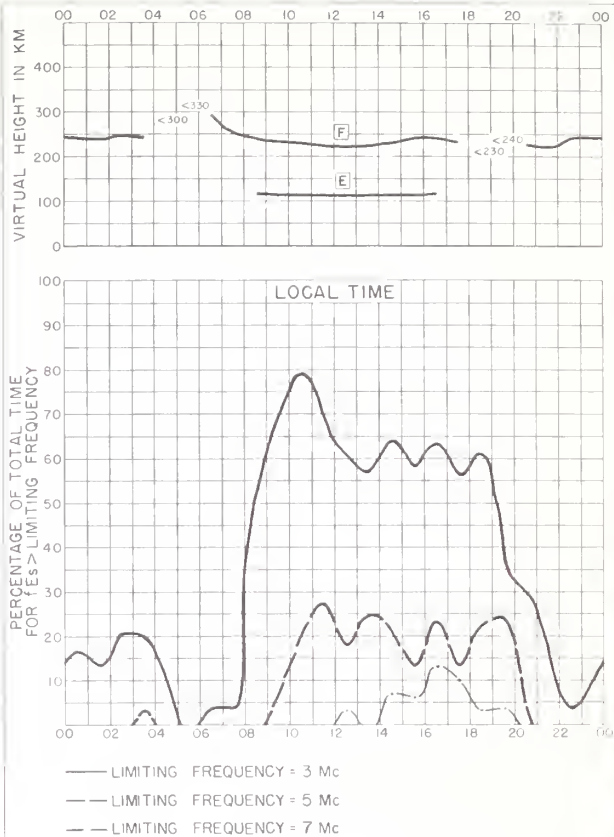


Fig. 34. OKINAWA I. JANUARY 1960

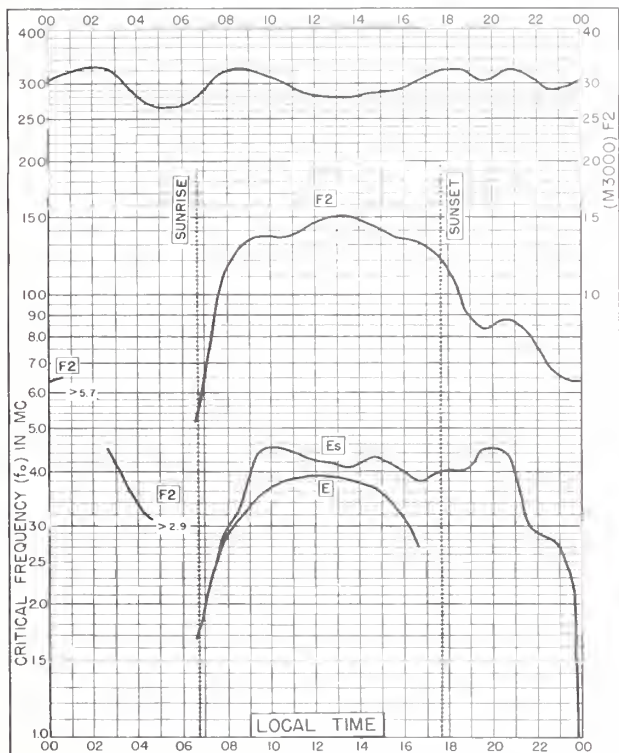


Fig. 35. MAUI, HAWAII
20.8°N, 156.5°W JANUARY 1960

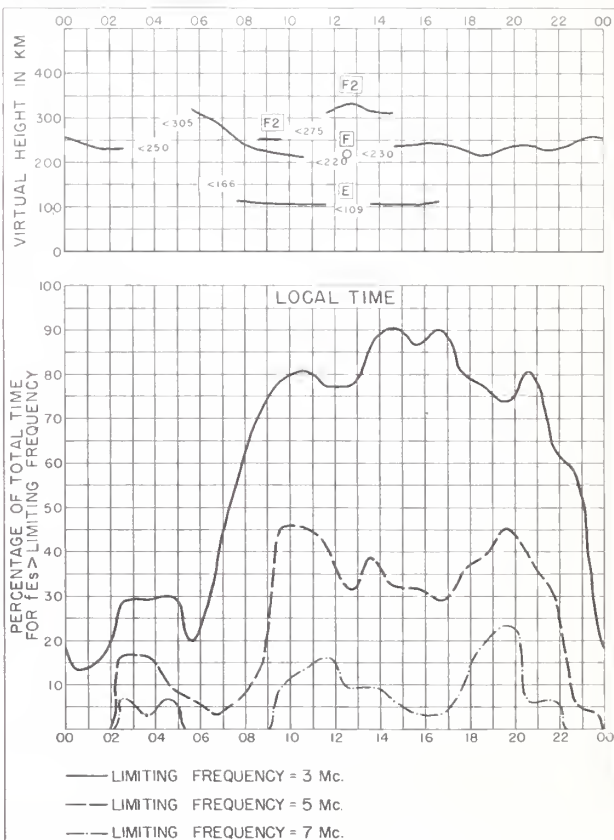


Fig. 36. MAUI, HAWAII JANUARY 1960

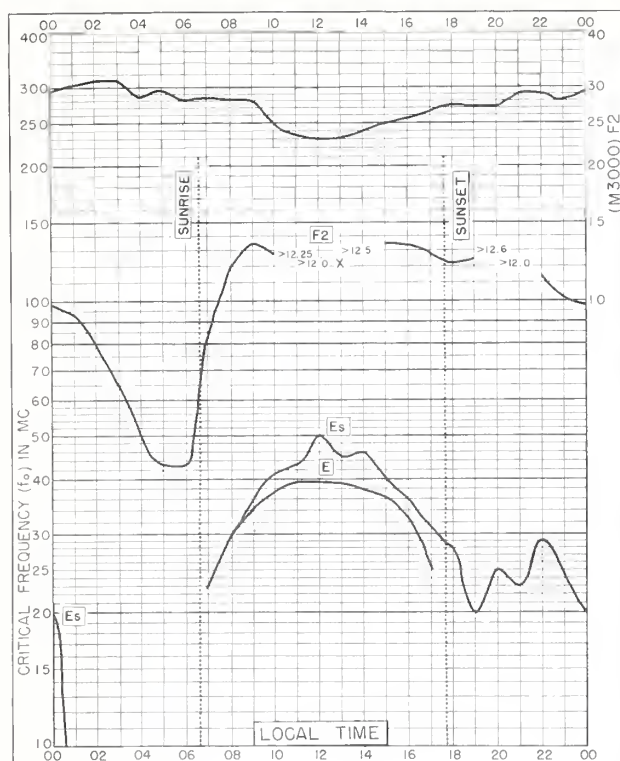


Fig. 37. BAGUIO, P. I.
16.4°N, 120.6°E

JANUARY 1960

NBS 503

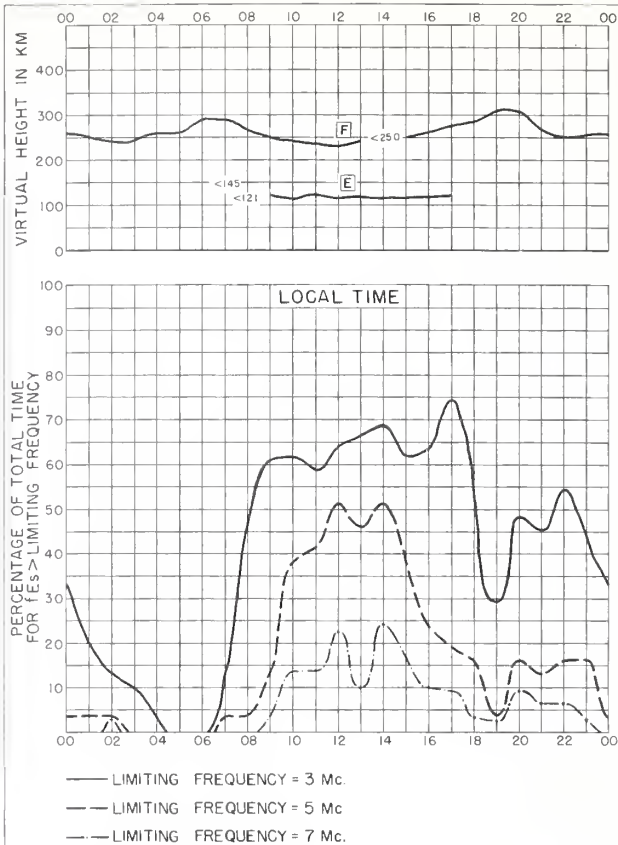


Fig. 38. BAGUIO, P. I.

JANUARY 1960

NBS 490

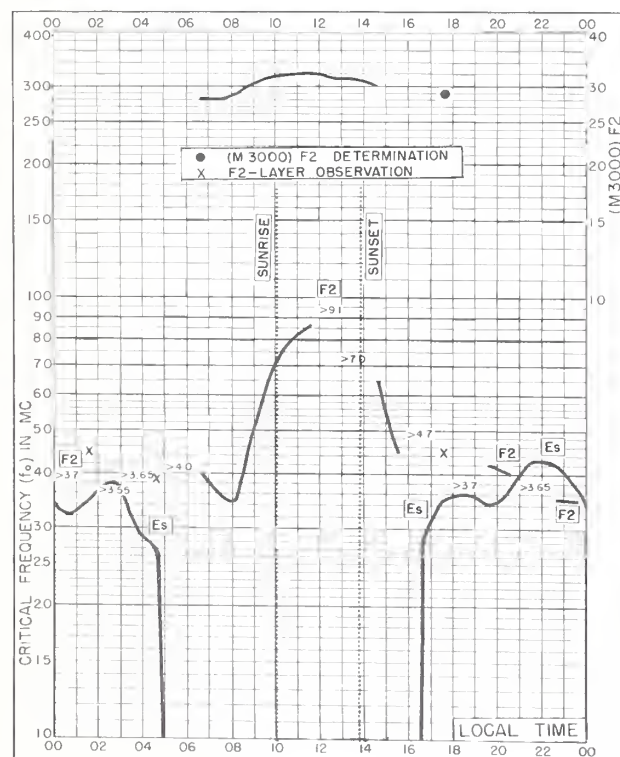


Fig. 39. REYKJAVIK, ICELAND
64.1°N, 21.8°W

DECEMBER 1959

NBS 503

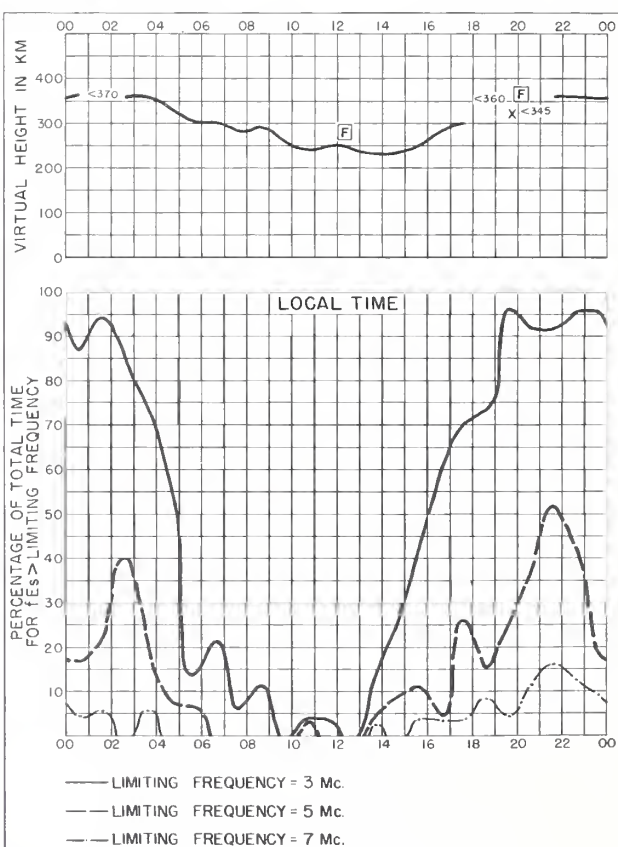


Fig. 40. REYKJAVIK, ICELAND

DECEMBER 1959

NBS 490

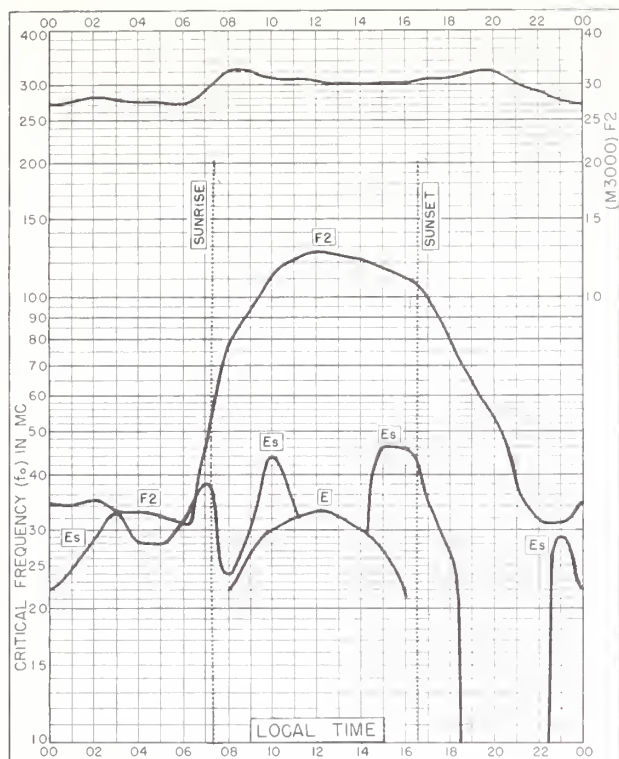


Fig. 41. BOULDER, COLORADO
40.0°N, 105.3°W DECEMBER 1959

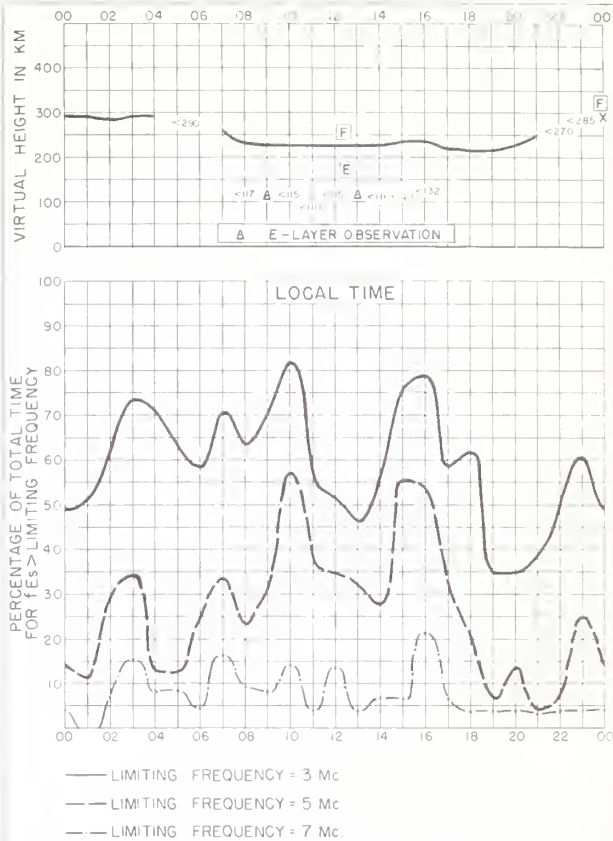


Fig. 42. BOULDER, COLORADO DECEMBER 1959

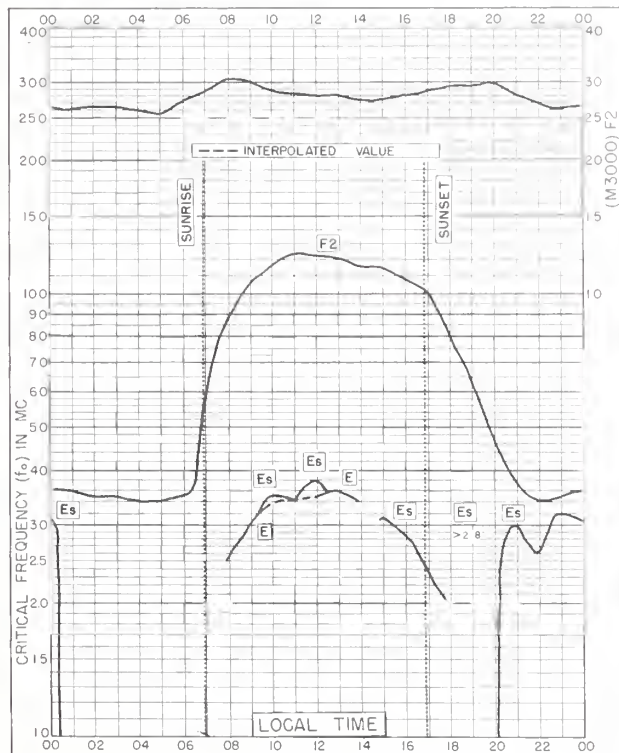


Fig. 43. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W DECEMBER 1959

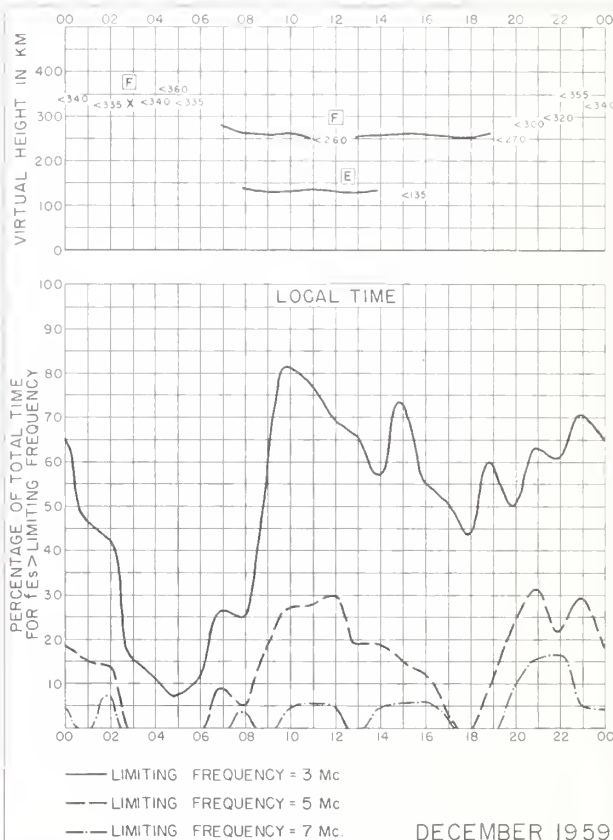


Fig. 44. WHITE SANDS, NEW MEXICO

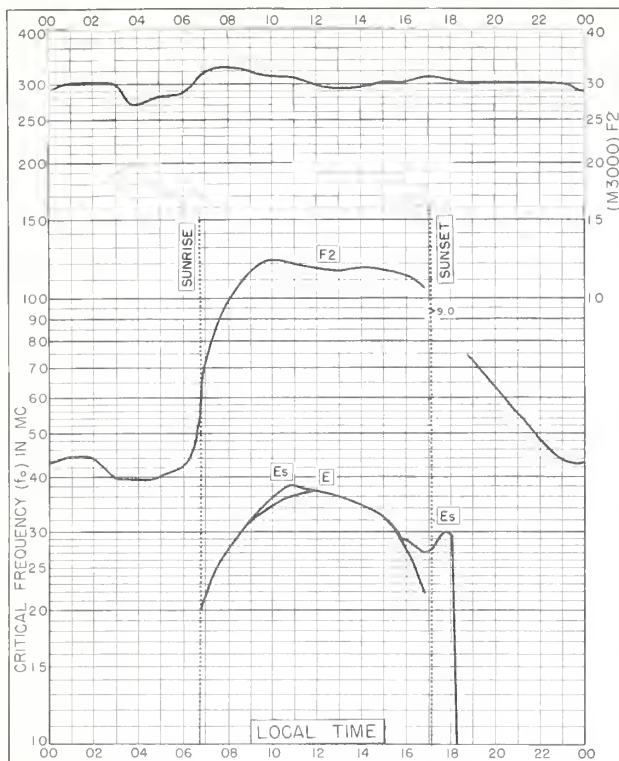


Fig. 45. GRAND BAHAMA I.
26.6°N, 78.2°W DECEMBER 1959

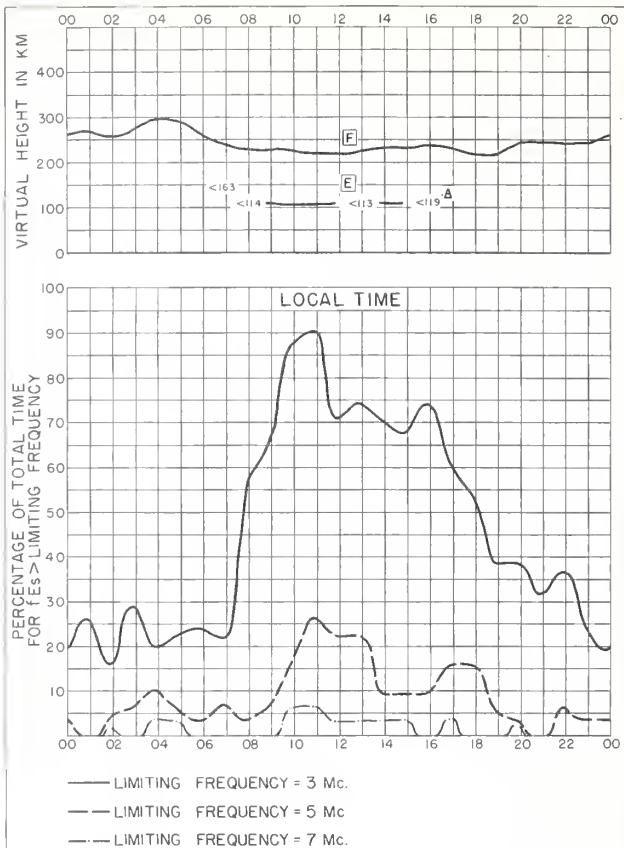


Fig. 46. GRAND BAHAMA I. DECEMBER 1959

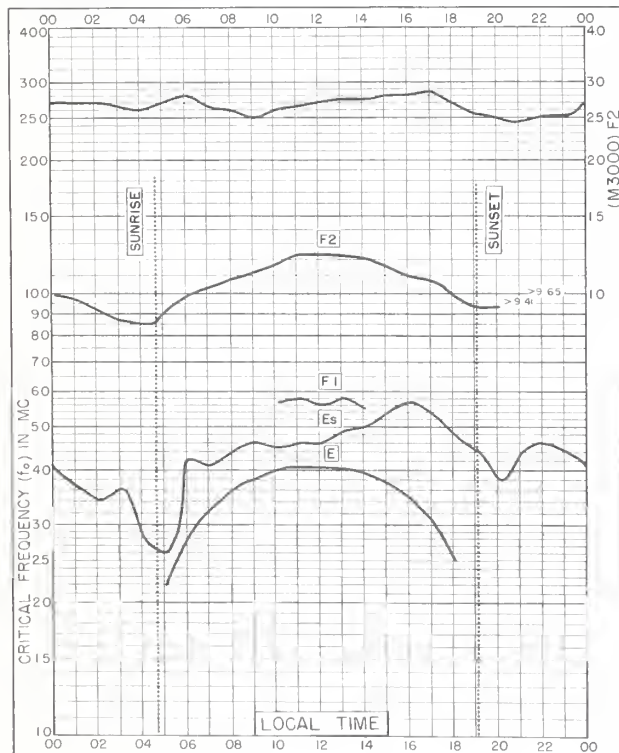


Fig. 47. CONCEPCION, CHILE
36.6°S, 73.0°W DECEMBER 1959

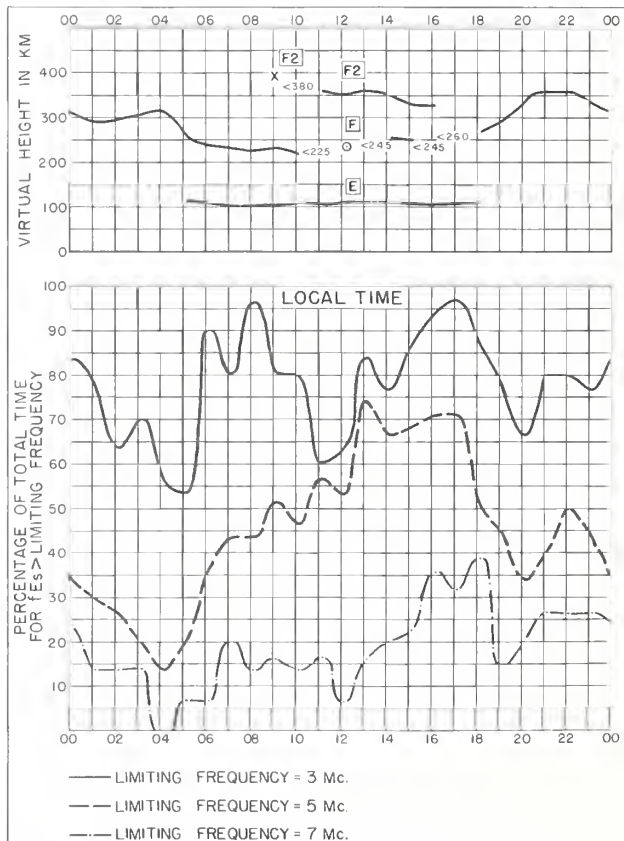


Fig. 48. CONCEPCION, CHILE DECEMBER 1959

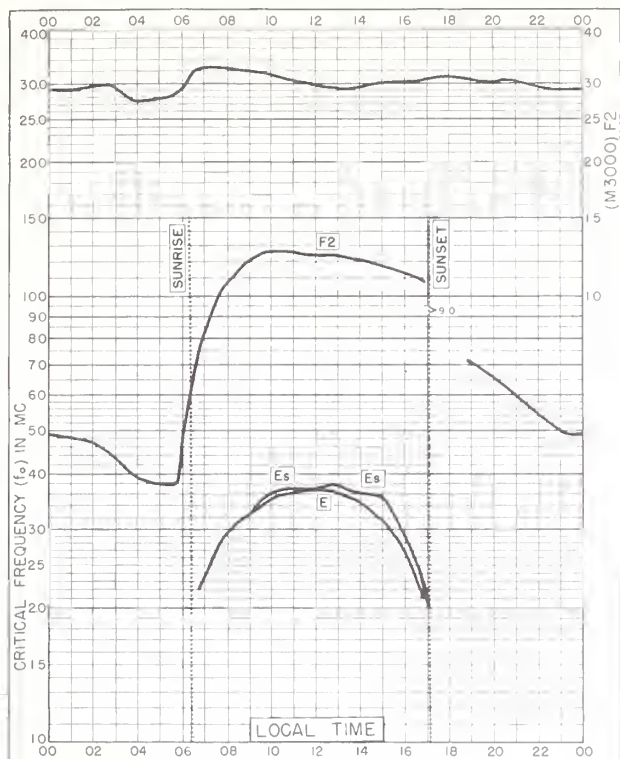


Fig 49. GRAND BAHAMA I.
26.6°N, 78.2°W NOVEMBER 1959

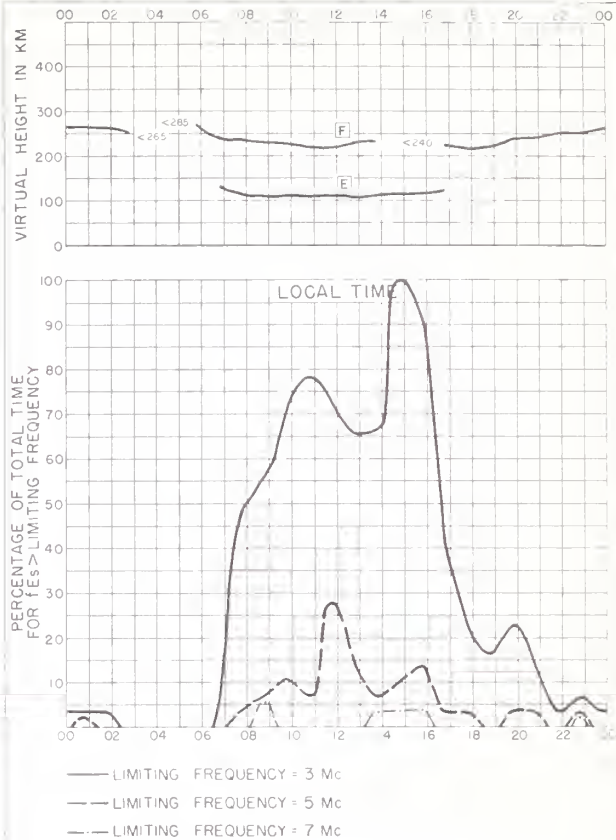


Fig 50. GRAND BAHAMA I. NOVEMBER 1959

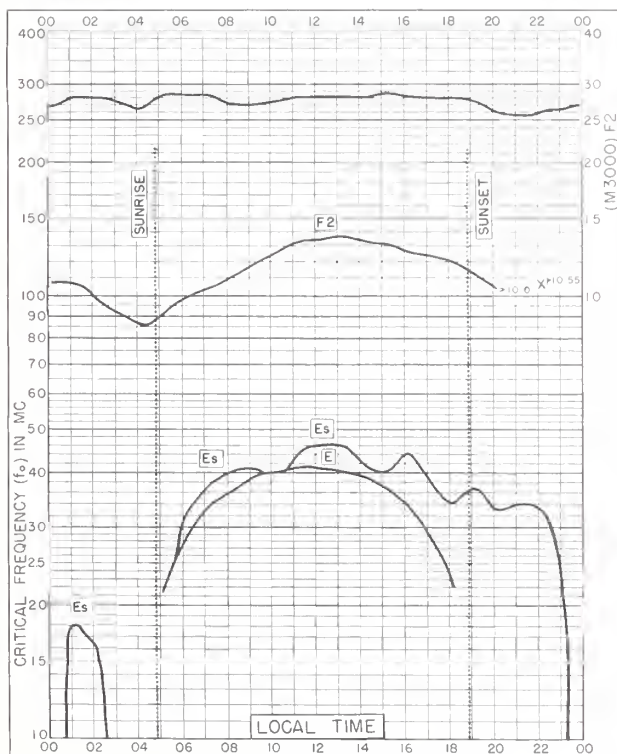


Fig 51. CONCEPCION, CHILE
36.6°S, 73.0°W NOVEMBER 1959

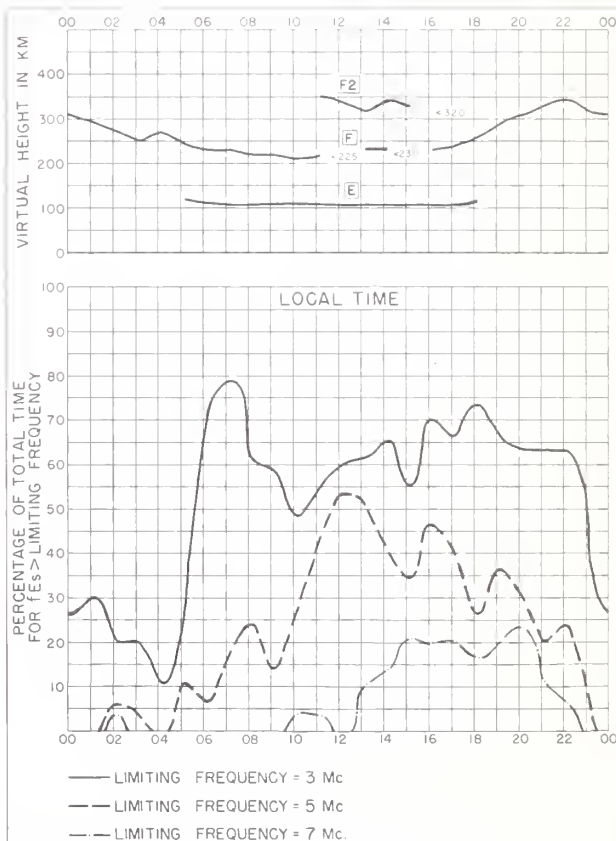


Fig 52. CONCEPCION, CHILE NOVEMBER 1959

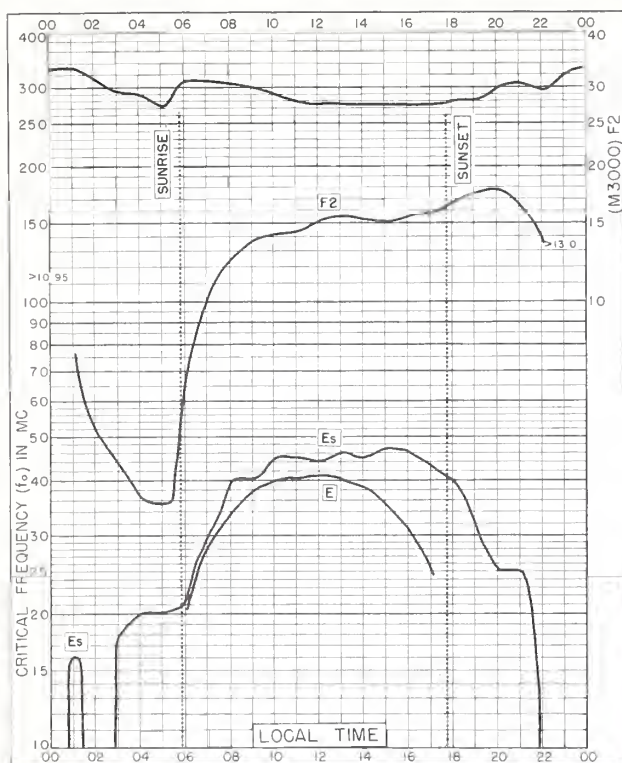


Fig 53. BOGOTA, COLOMBIA
4.5°N, 74.2°W
OCTOBER 1959

NBS 503

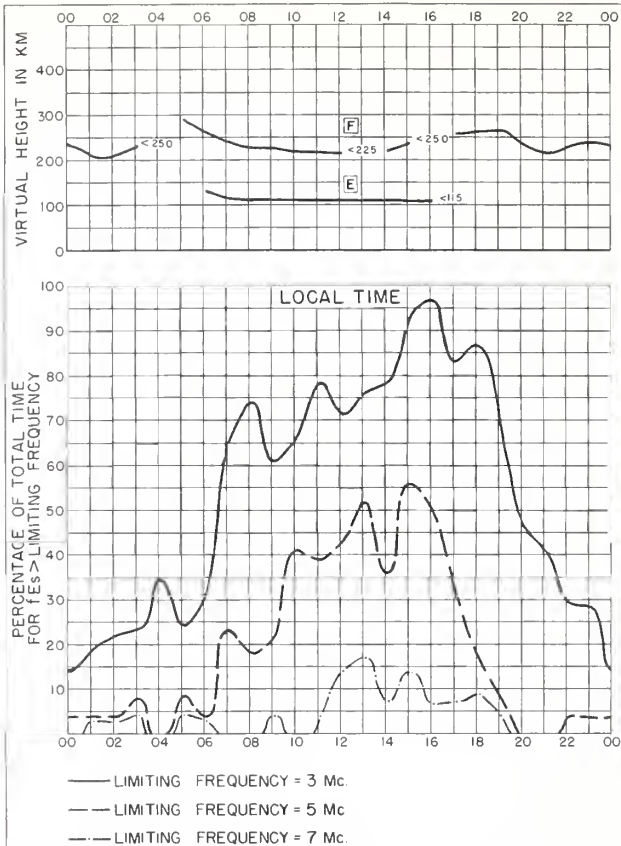


Fig 54. BOGOTA, COLOMBIA
OCTOBER 1959

NBS 490

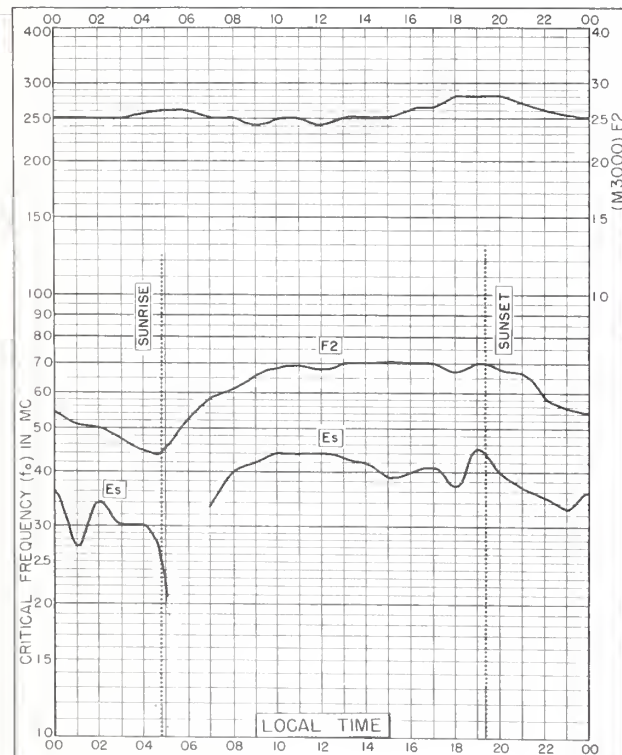


Fig 55. BOULDER, COLORADO
40.0°N, 105.3°W
JULY 1959

NBS 503

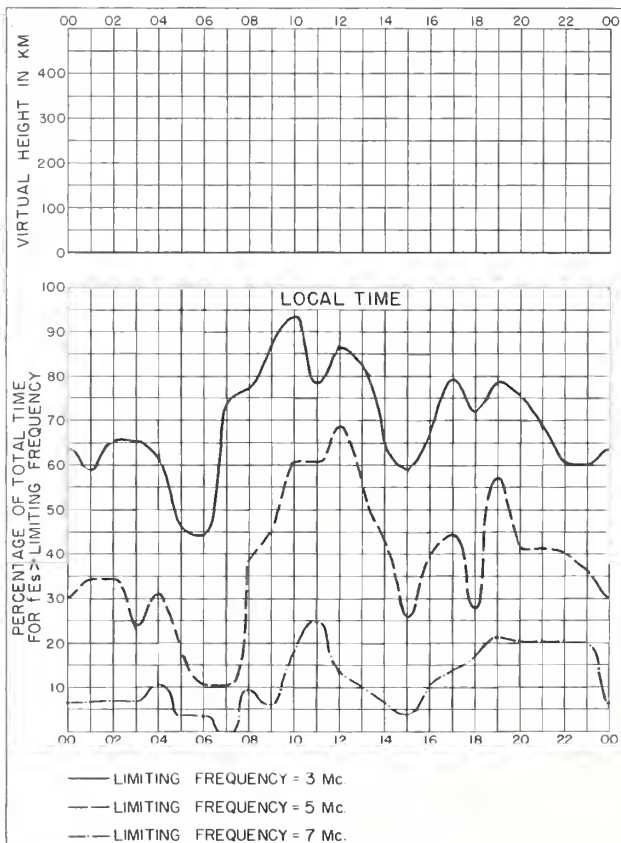


Fig 56. BOULDER, COLORADO
JULY 1959

NBS 490

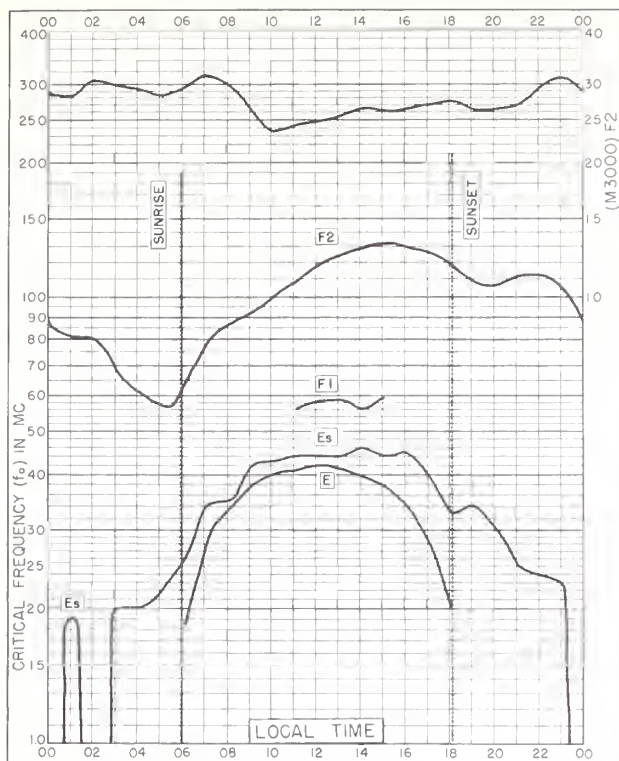


Fig 57. BOGOTA, COLOMBIA
45° N, 74.2° W

JULY 1959

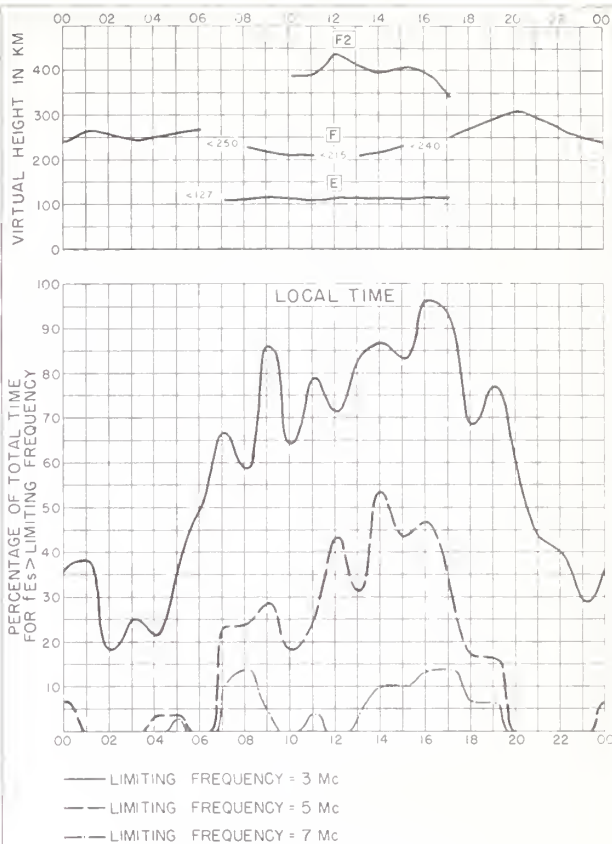


Fig 58. BOGOTA, COLOMBIA

JULY 1959



Fig 59. LULEA, SWEDEN
65.6° N, 22.1° E

JUNE 1959

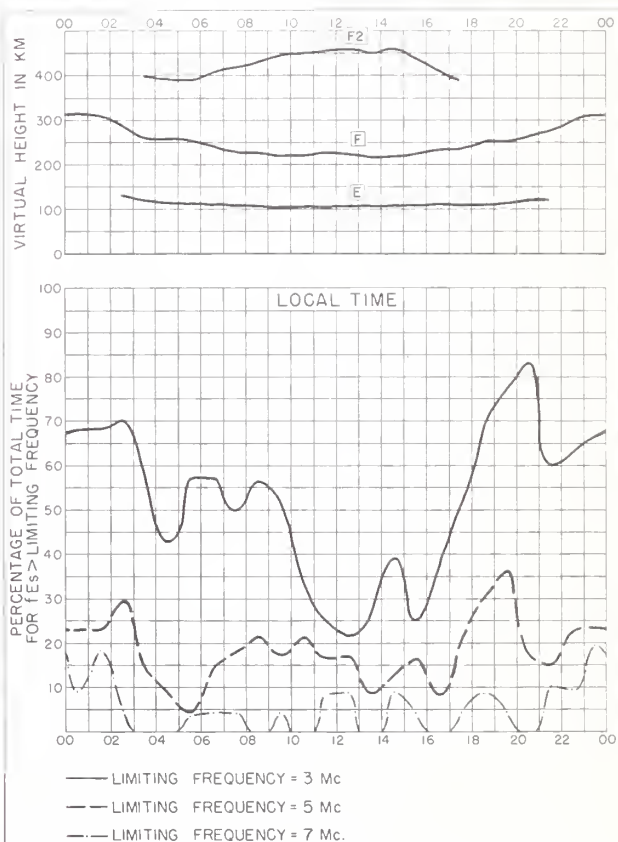


Fig 60. LULEA, SWEDEN

JUNE 1959

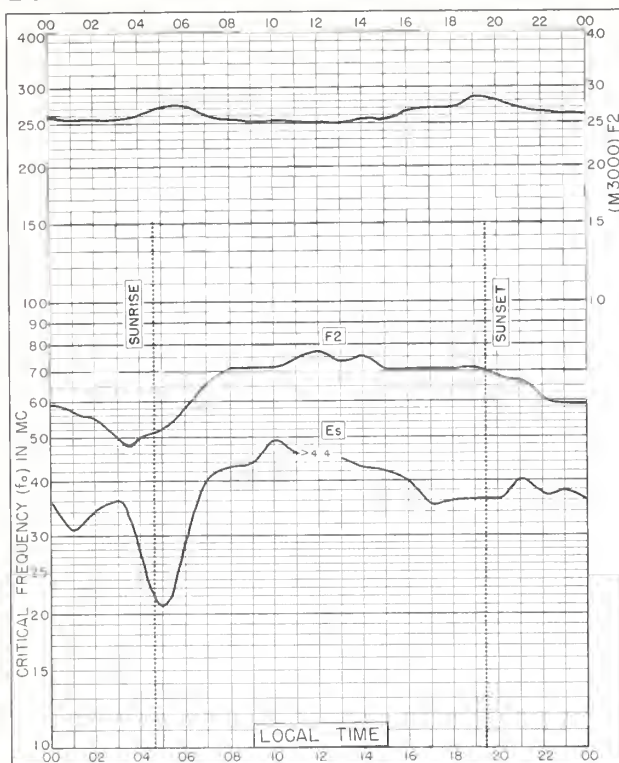


Fig. 61. BOULDER, COLORADO
40.0°N, 105.3°W

JUNE 1959

NBS 503

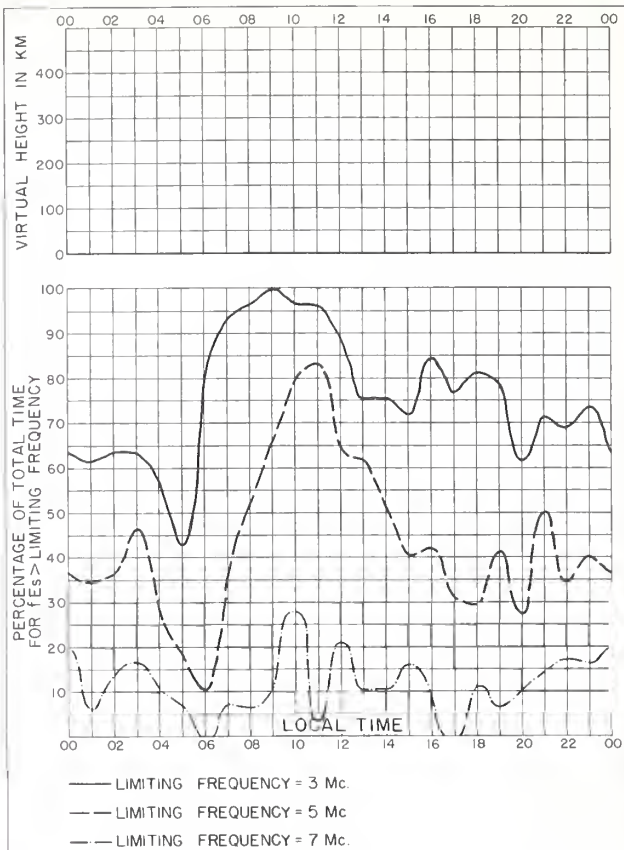


Fig. 62. BOULDER, COLORADO

JUNE 1959

NBS 490

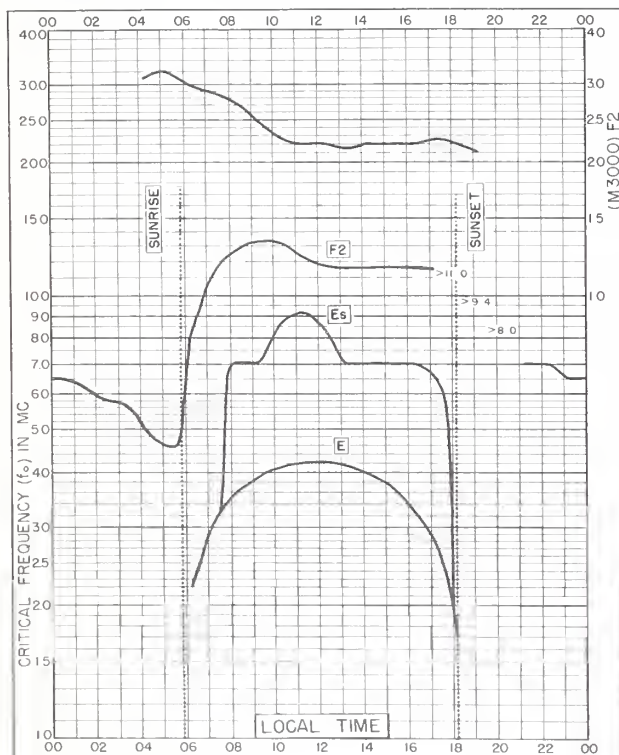


Fig. 63. IBADAN, NIGERIA
7.4°N, 3.9°E

JUNE 1959

NBS 503

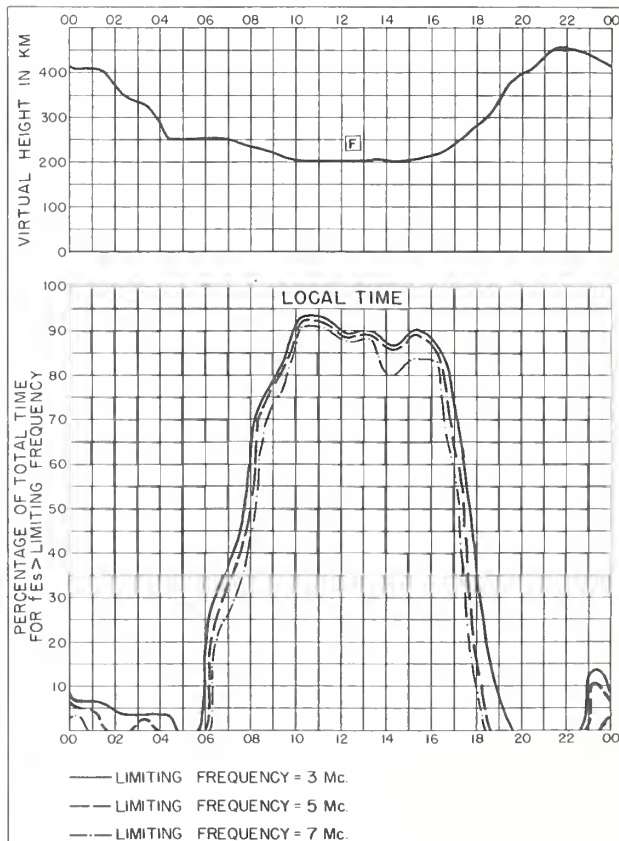


Fig. 64. IBADAN, NIGERIA

JUNE 1959

NBS 490

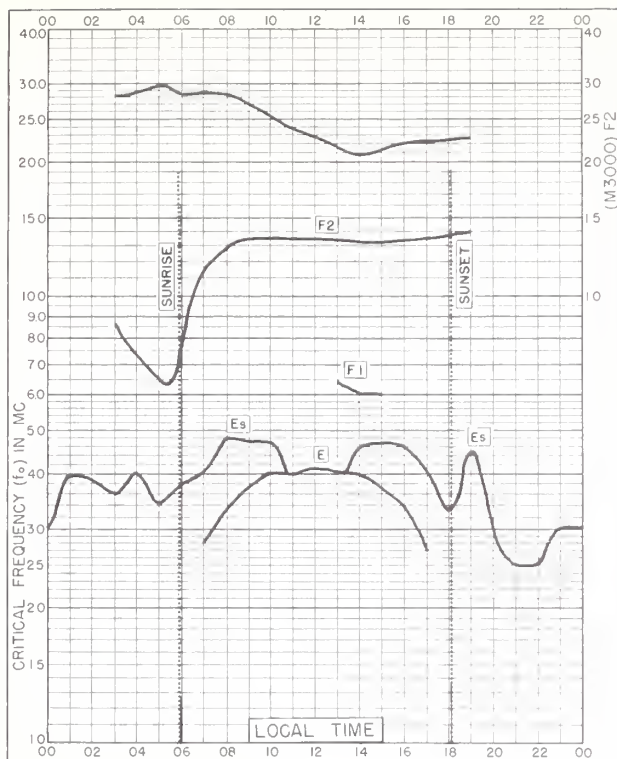


Fig. 65. BUNIA, BELGIAN CONGO
1.5°N, 30.2°E

JUNE 1959

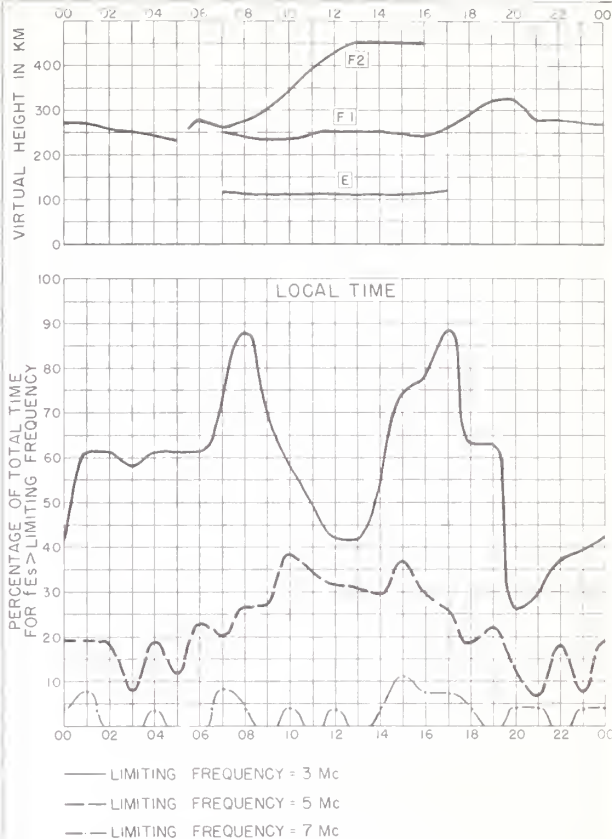


Fig. 66 BUNIA, BELGIAN CONGO JUNE 1959

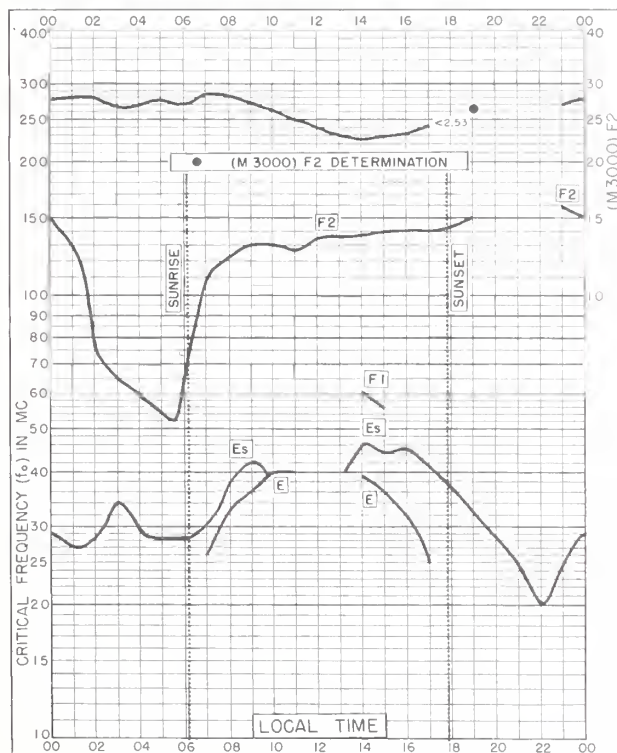


Fig. 67. LEOPOLDVILLE, BELGIAN CONGO
4.4°S, 15.2°E

JUNE 1959

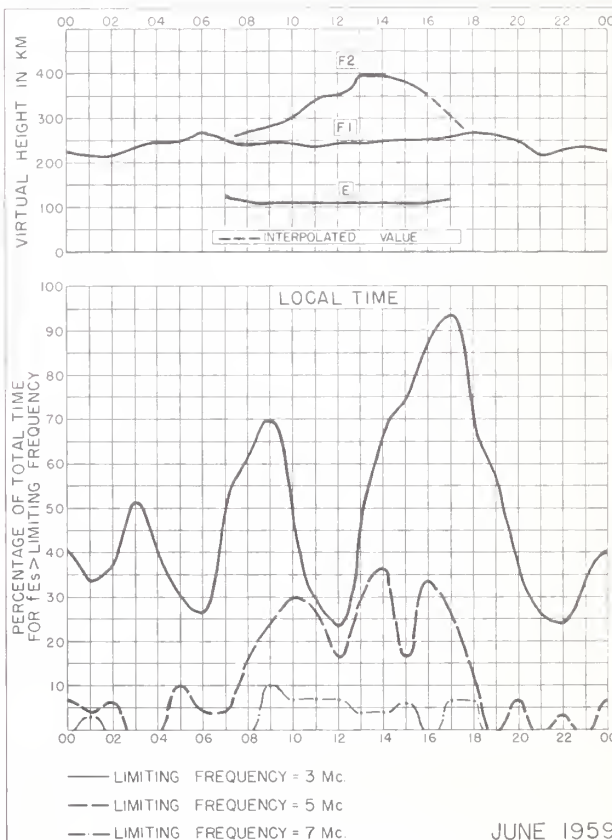


Fig. 68. LEOPOLDVILLE, BELGIAN CONGO

JUNE 1959

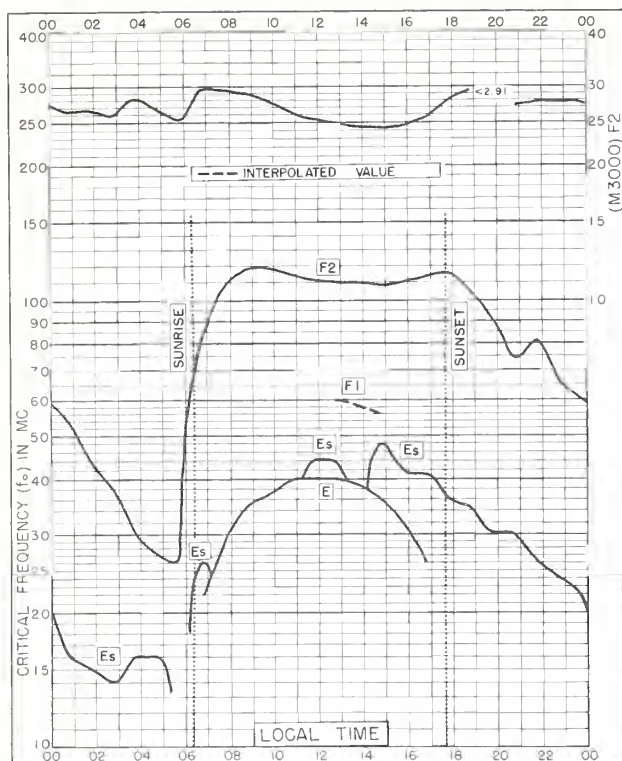


Fig 69. ELISABETHVILLE, BELGIAN CONGO
11.6°S, 27.5°E
JUNE 1959

NBS 503

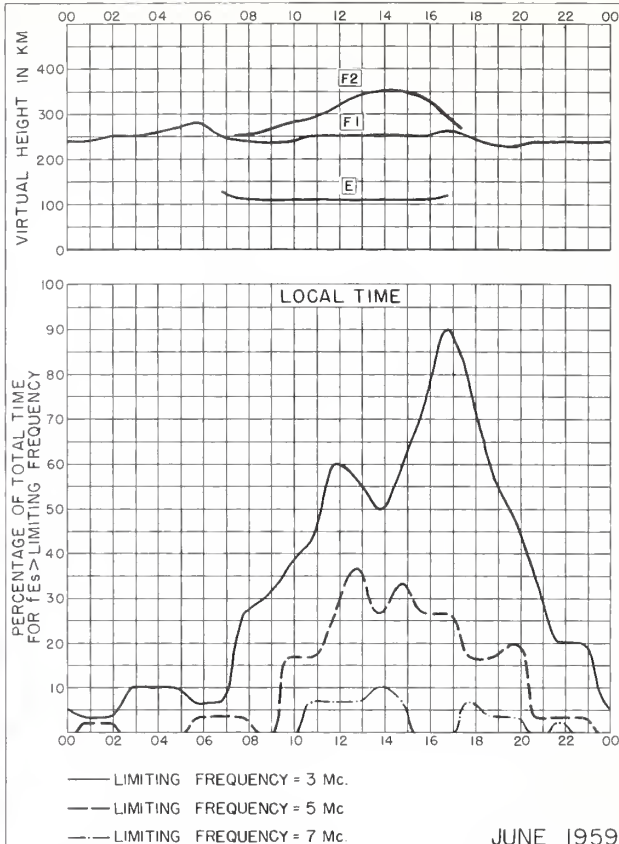


Fig 70. ELISABETHVILLE, BELGIAN CONGO
JUNE 1959

NBS 490

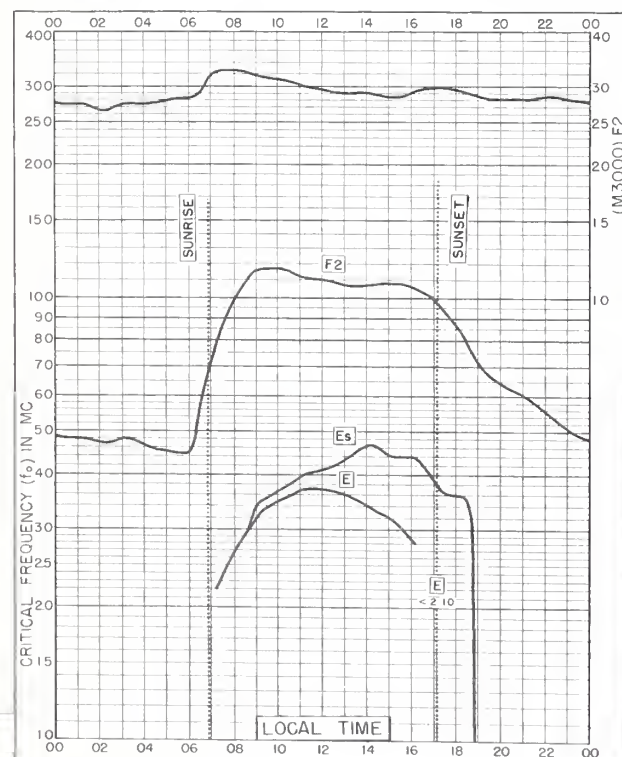


Fig 71. BRISBANE, AUSTRALIA
27.5°S, 152.9°E
JUNE 1959

NBS 503

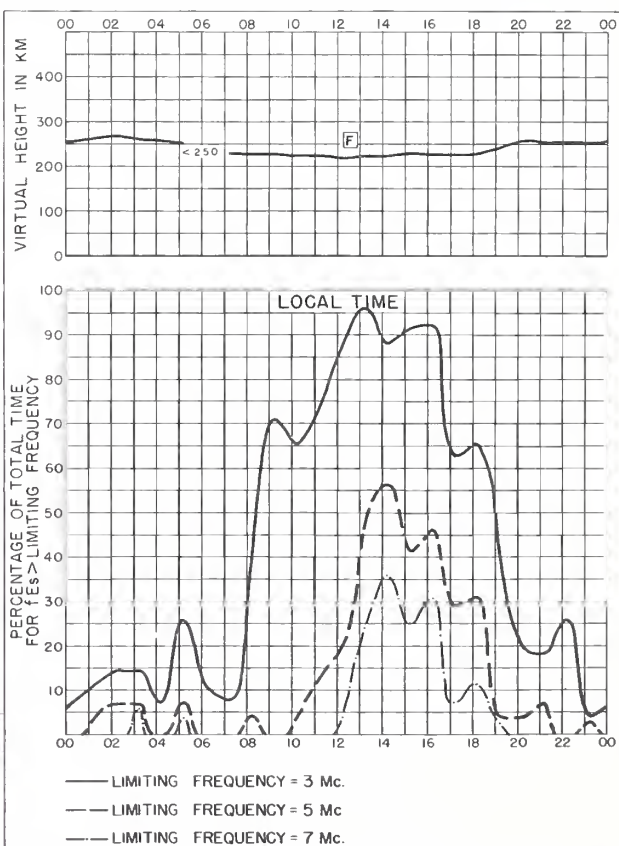


Fig 72. BRISBANE, AUSTRALIA
JUNE 1959

NBS 490

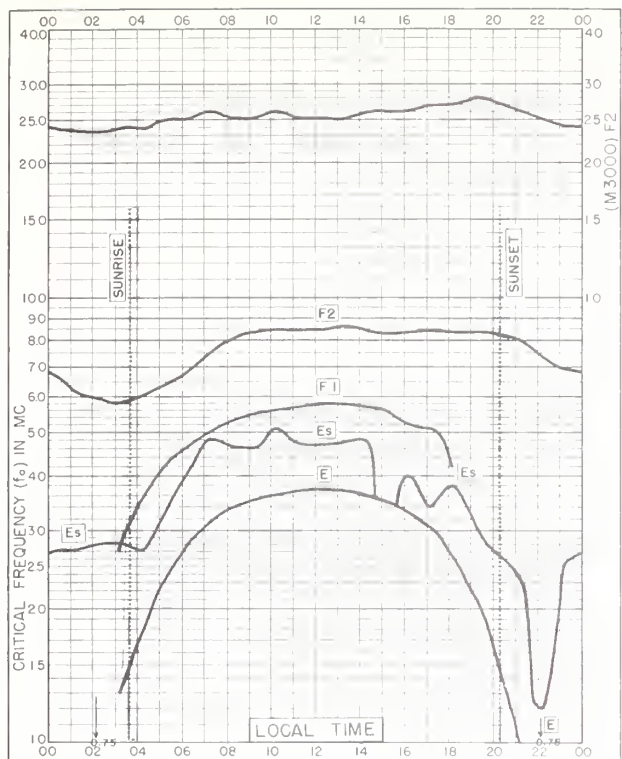
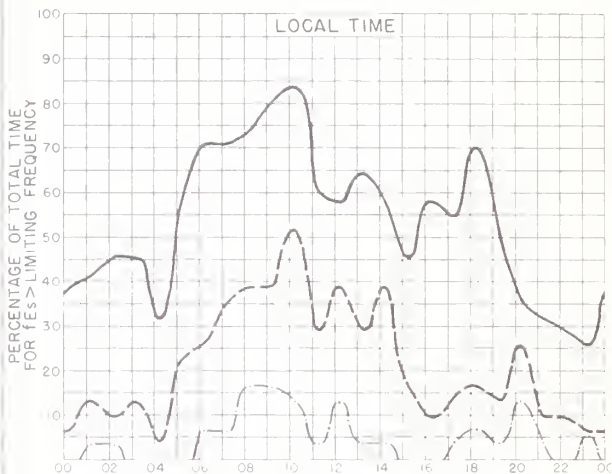
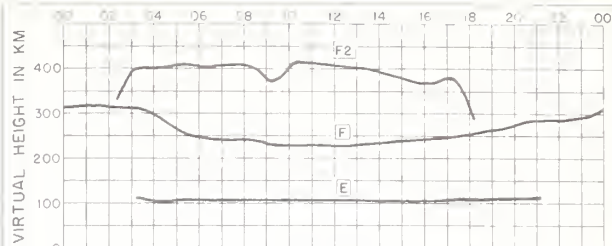


Fig. 73. UPSALA, SWEDEN
59.8°N, 17.6°E

MAY 1959



— LIMITING FREQUENCY = 3 Mc
- - - LIMITING FREQUENCY = 5 Mc
- · - · - LIMITING FREQUENCY = 7 Mc

Fig. 74. UPSALA, SWEDEN

MAY 1959

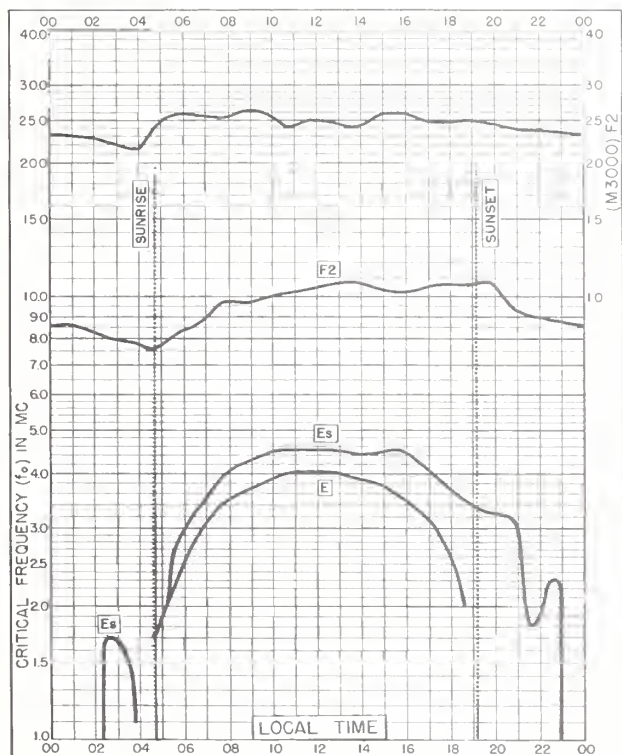
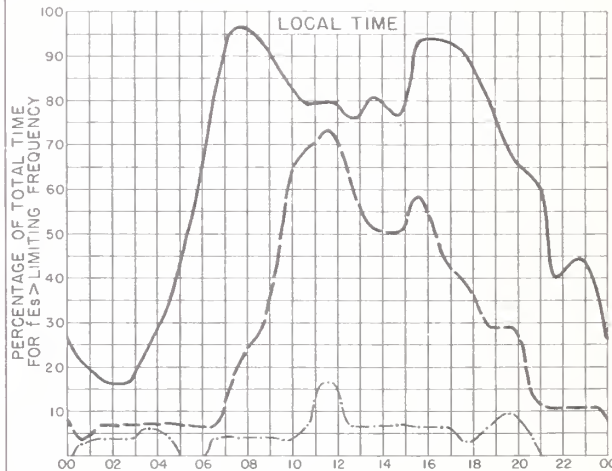
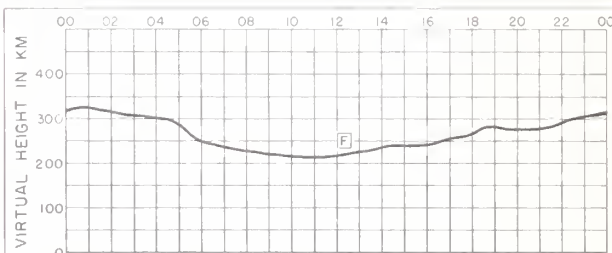


Fig. 75. MONTE CAPELLINO, ITALY
44.6°N, 9.0°E

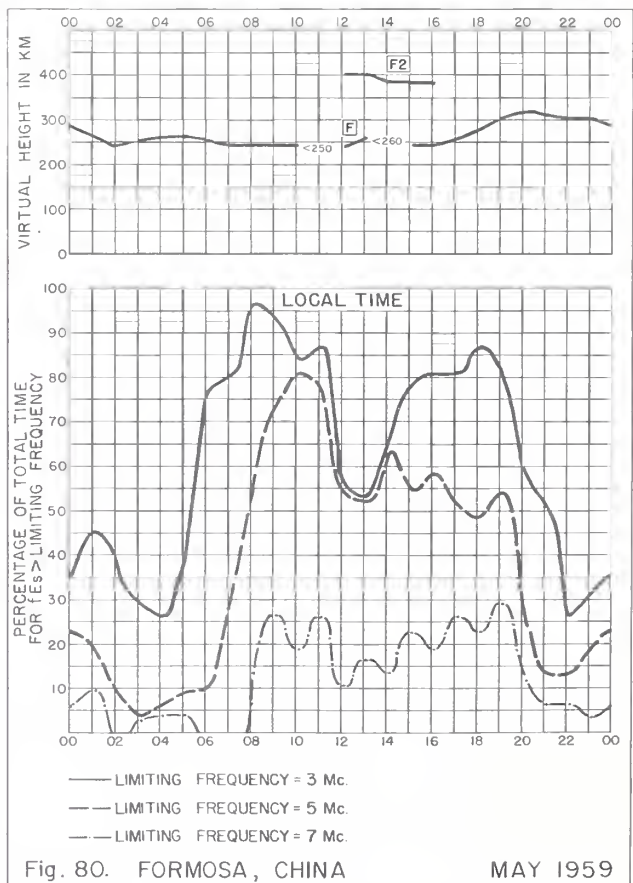
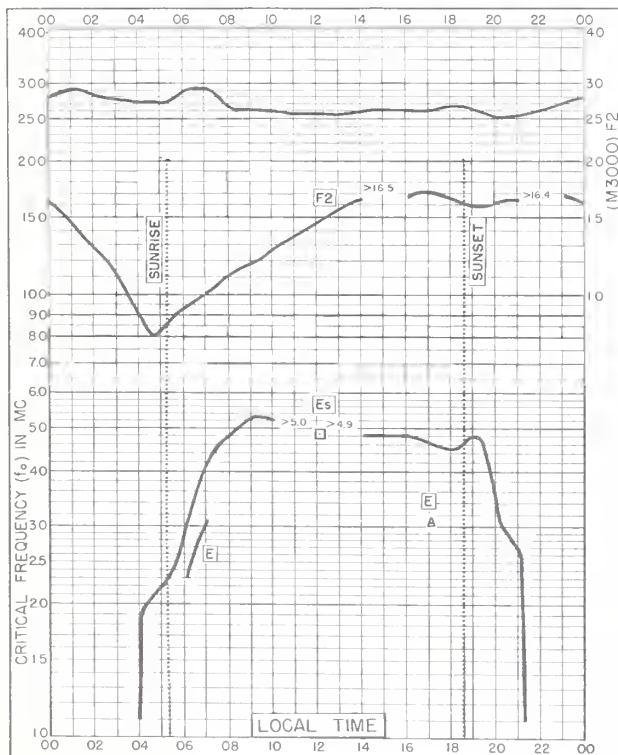
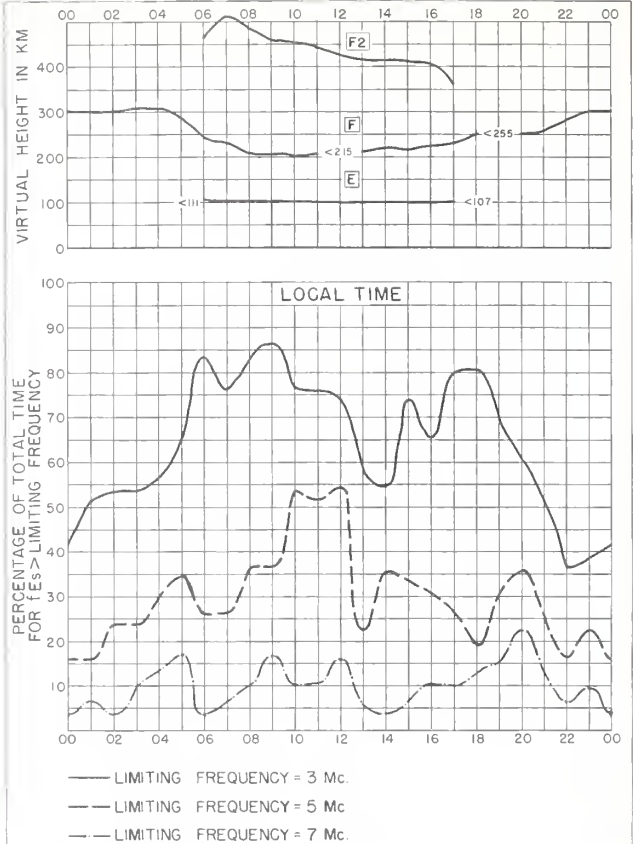
MAY 1959



— LIMITING FREQUENCY = 3 Mc.
- - - LIMITING FREQUENCY = 5 Mc
- · - · - LIMITING FREQUENCY = 7 Mc.

Fig. 76. MONTE CAPELLINO, ITALY

MAY 1959



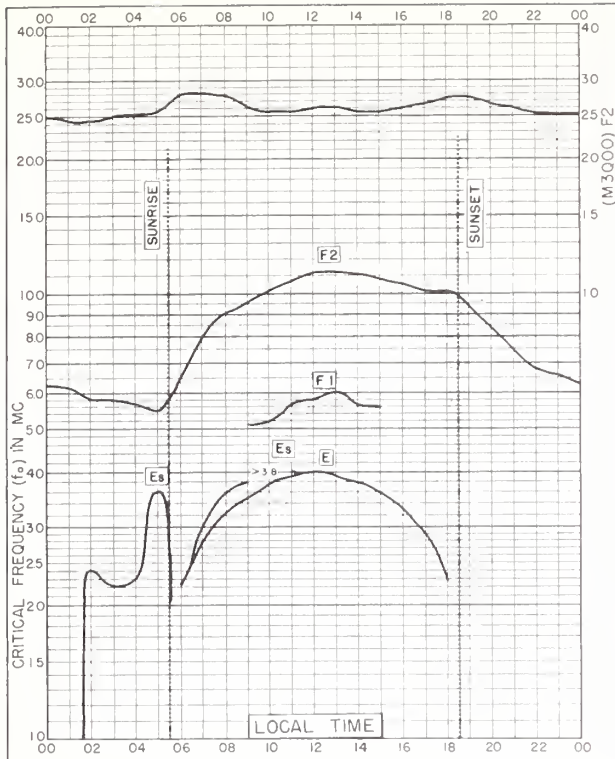
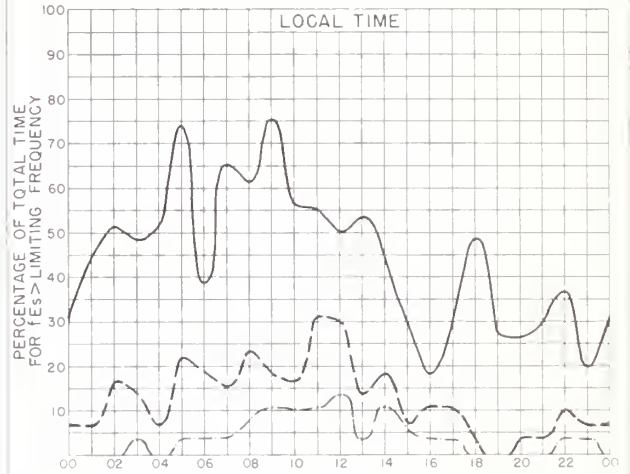
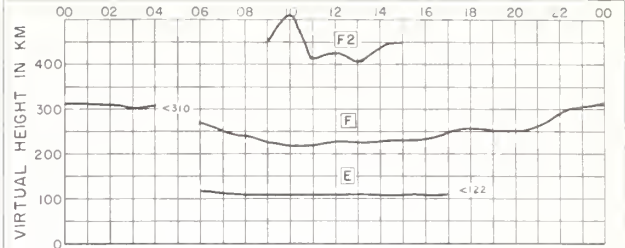


Fig. 81. BOULDER, COLORADO
40.0°N, 105.3°W

APRIL 1959



— LIMITING FREQUENCY = 3 Mc
- - - LIMITING FREQUENCY = 5 Mc
... LIMITING FREQUENCY = 7 Mc

Fig. 82. BOULDER, COLORADO

APRIL 1959

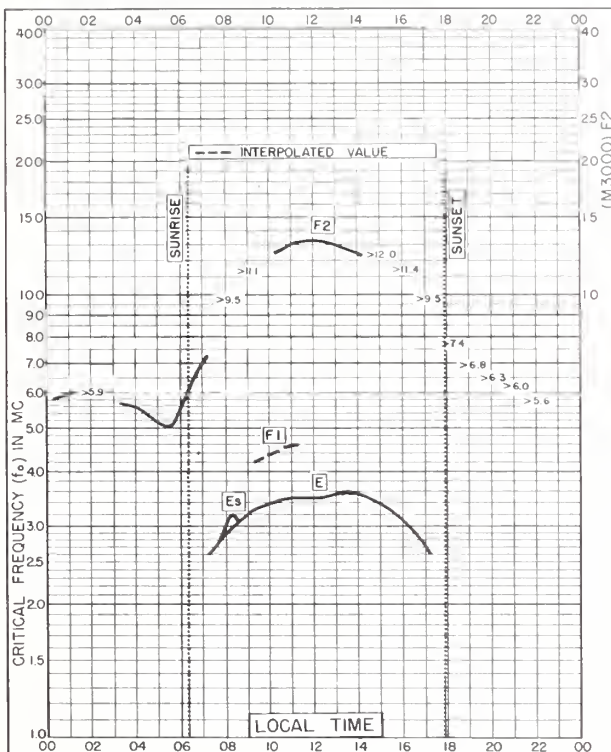
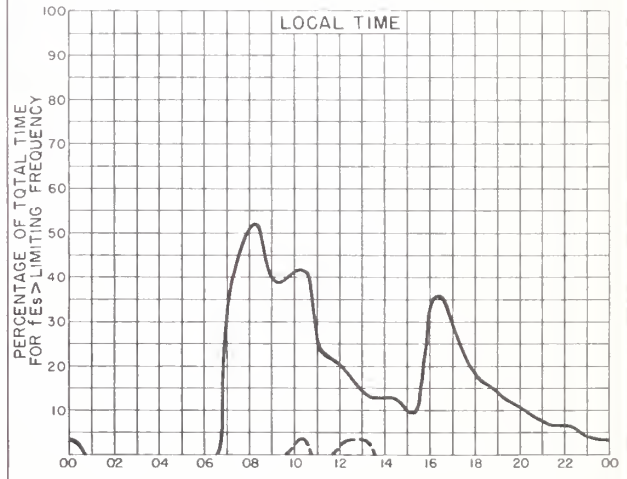
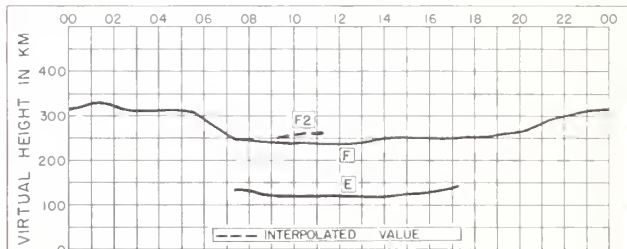


Fig. 83. BUDAPEST, HUNGARY
47.4°N, 19.2°E

MARCH 1959



— LIMITING FREQUENCY = 3 Mc
- - - LIMITING FREQUENCY = 5 Mc
... LIMITING FREQUENCY = 7 Mc

Fig. 84. BUDAPEST, HUNGARY

MARCH 1959

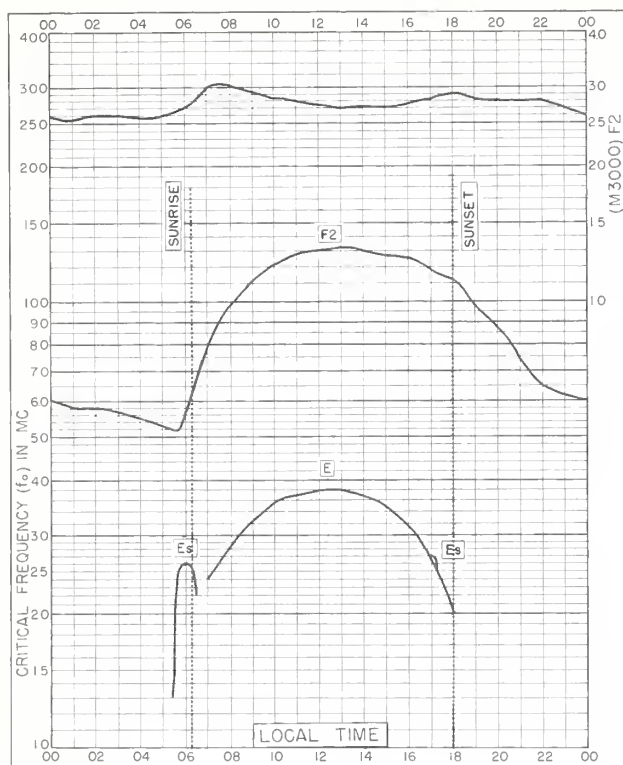


Fig. 85. BOULDER, COLORADO
40.0°N, 105.3°W

MARCH 1959

NBS 503



Fig. 87. BOULDER, COLORADO
40.0°N, 105.3°W

FEBRUARY 1959

NBS 503

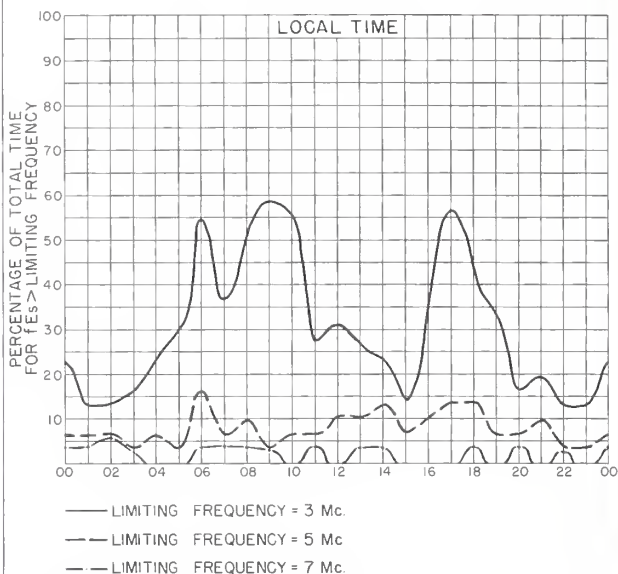
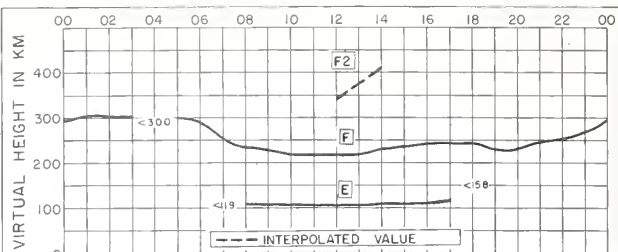


Fig. 86. BOULDER, COLORADO

MARCH 1959

NBS 490

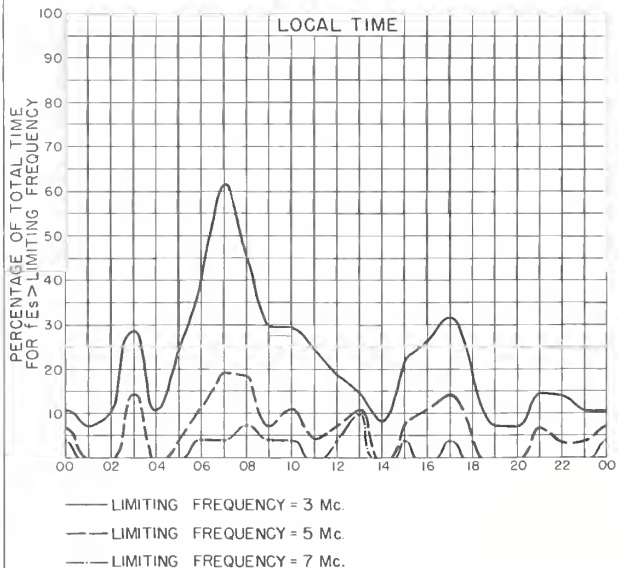
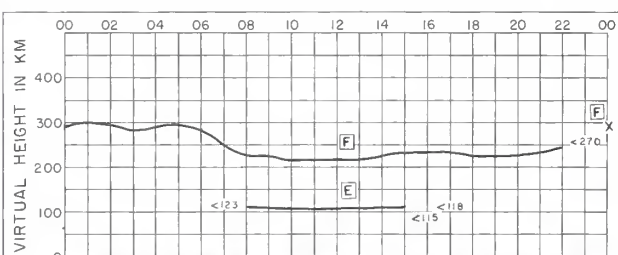


Fig. 88. BOULDER, COLORADO

FEBRUARY 1959

NBS 490

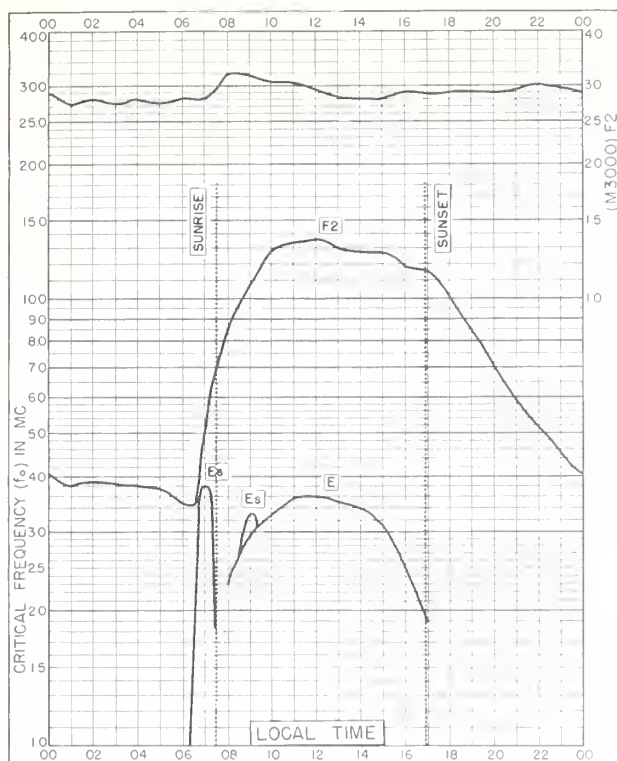


Fig. 89. BOULDER, COLORADO
40.0°N, 105.3°W

JANUARY 1959

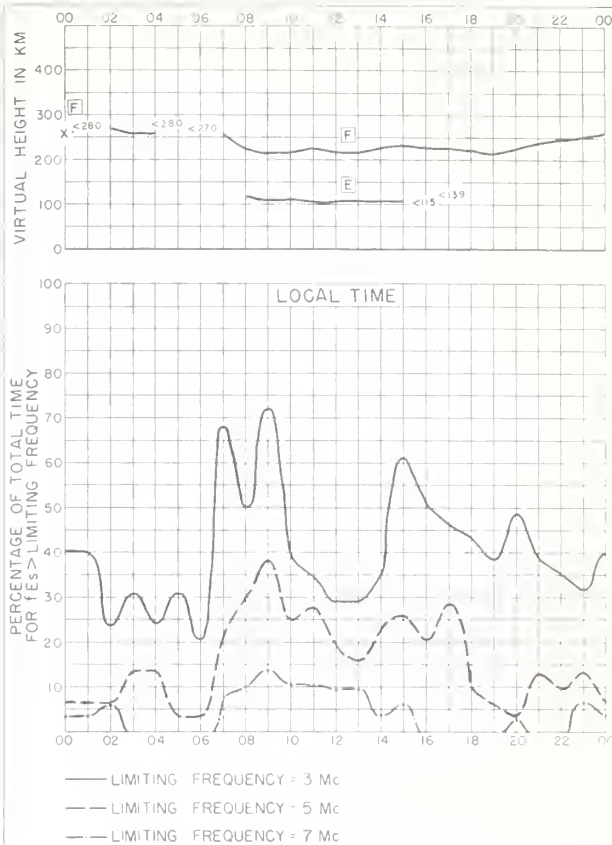


Fig. 90. BOULDER, COLORADO JANUARY 1959

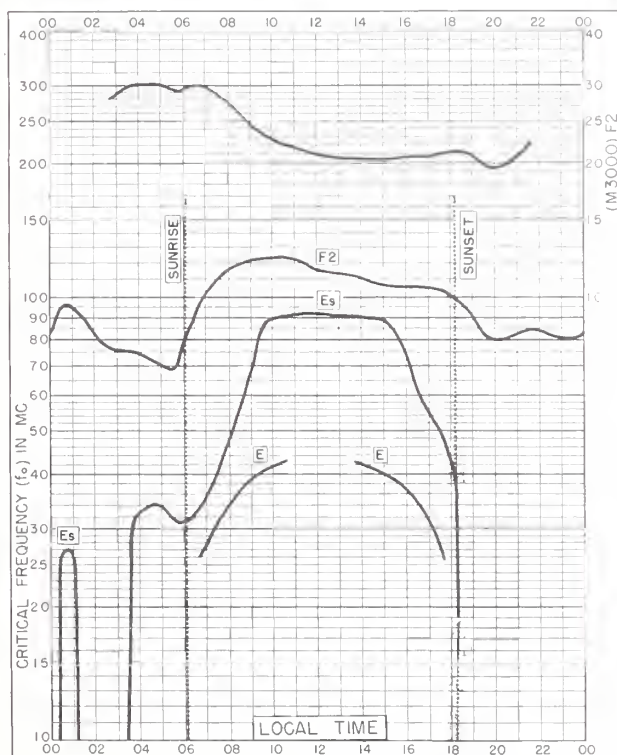


Fig. 91. NATAL, BRAZIL
5.3°S, 35.1°W

JANUARY 1959

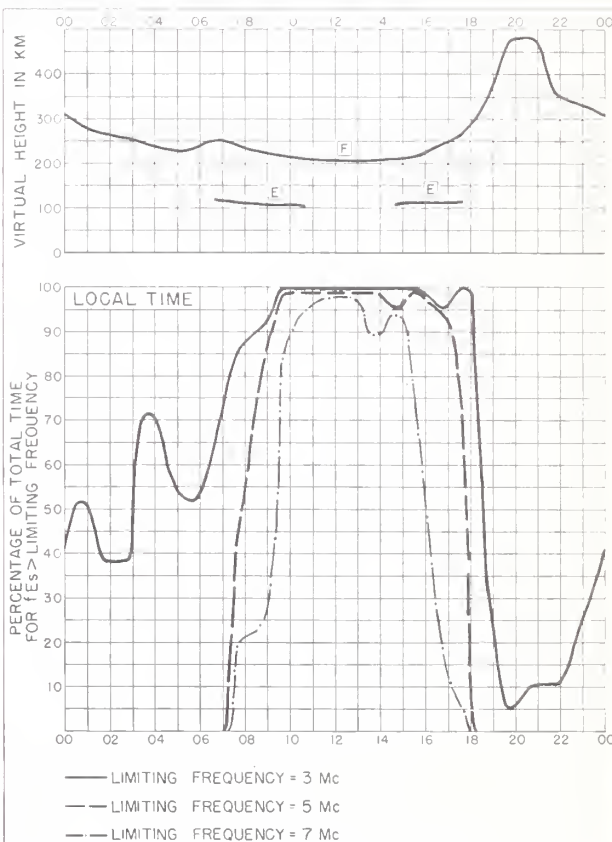


Fig. 92. NATAL, BRAZIL

JANUARY 1959



Fig. 93. CAPE CANAVERAL, FLORIDA
28.4°N, 80.6°W DECEMBER 1958

NBS 503

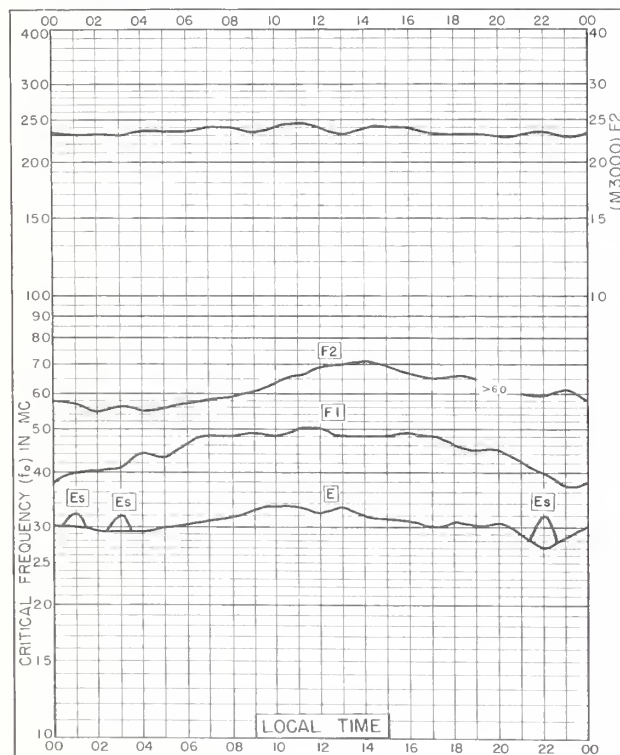


Fig. 95. BYRD STATION
80.0°S, 120.0°W DECEMBER 1958

NBS 503

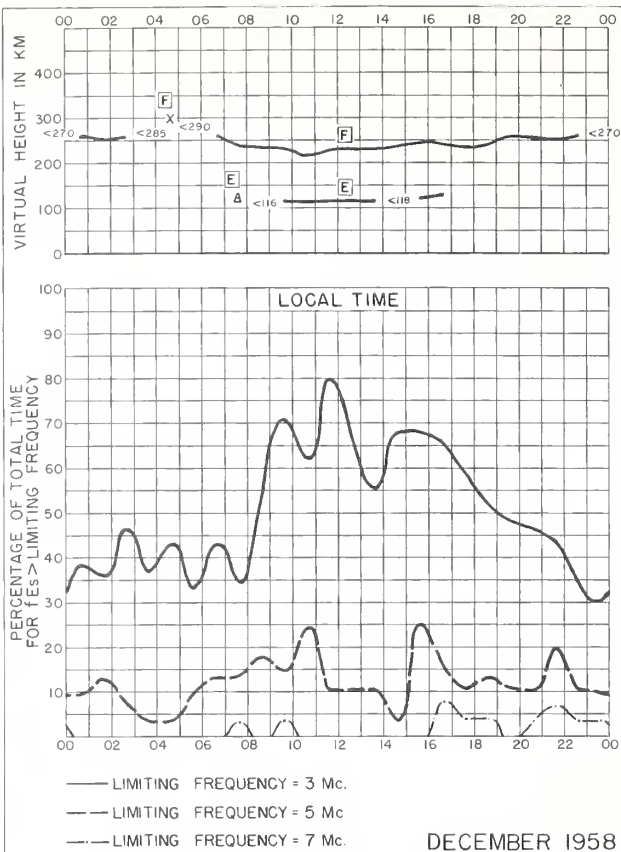


Fig. 94. CAPE CANAVERAL, FLORIDA

NBS 490

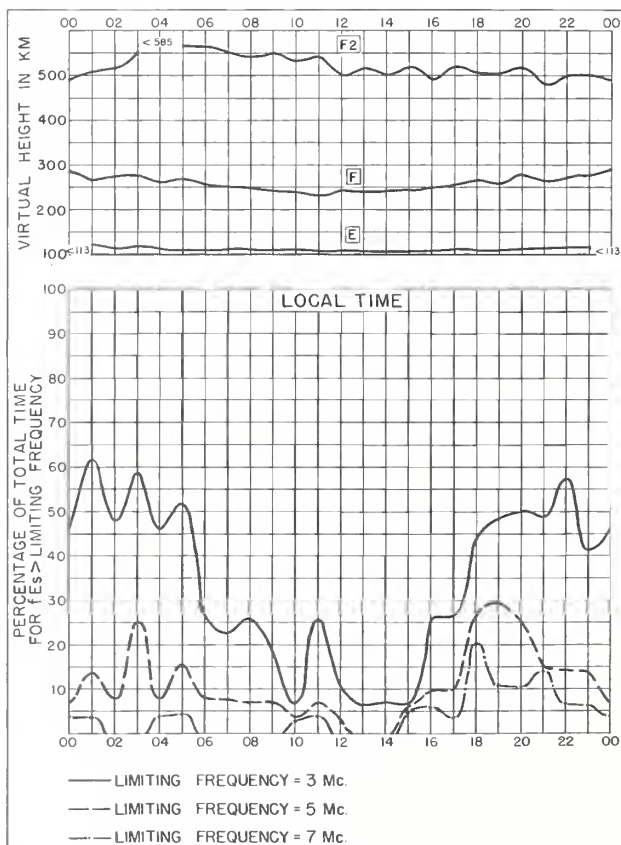


Fig. 96. BYRD STATION DECEMBER 1958

NBS 490

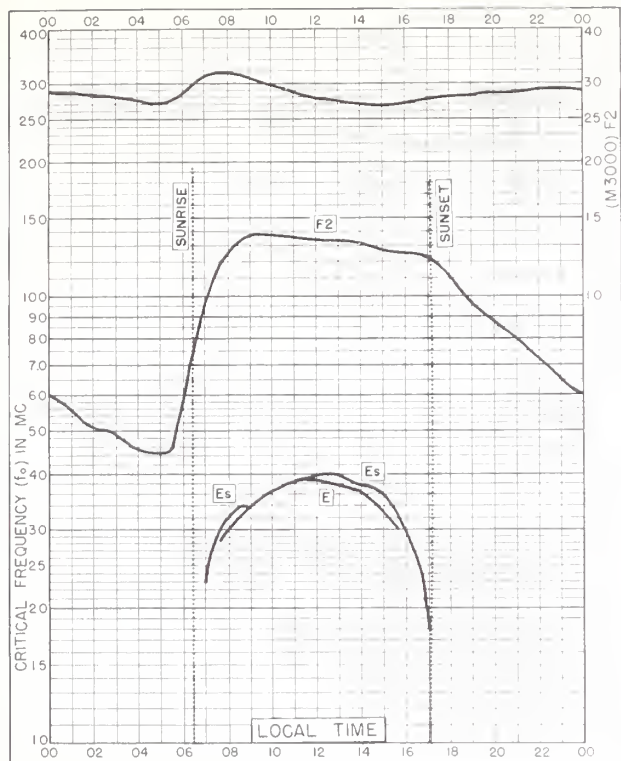


Fig. 97. CAPE CANAVERAL, FLORIDA
28.4°N, 80.6°W NOVEMBER 1958

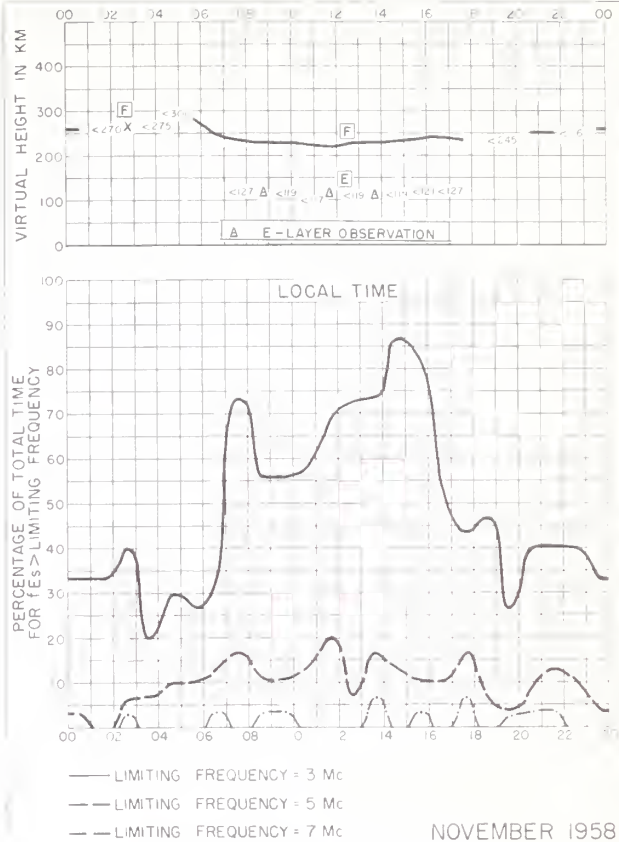


Fig. 98. CAPE CANAVERAL, FLORIDA

NOVEMBER 1958

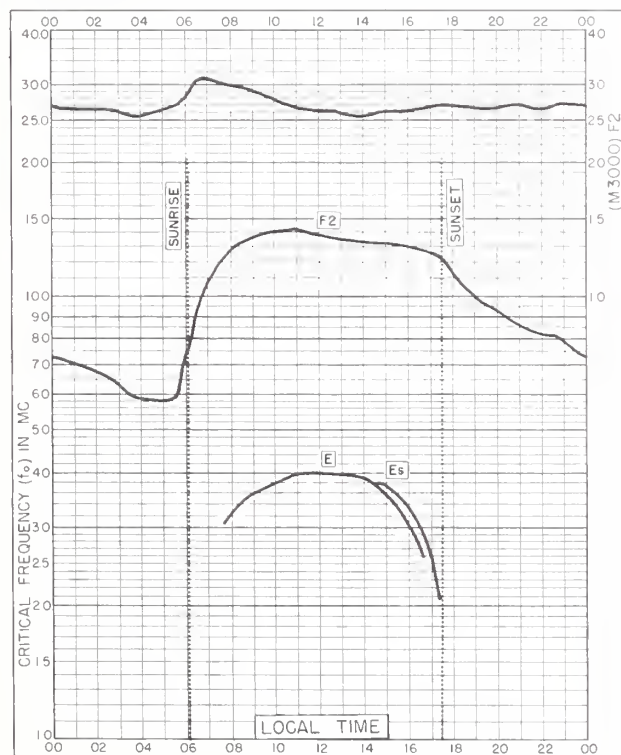


Fig. 99. CAPE CANAVERAL, FLORIDA
28.4°N, 80.6°W OCTOBER 1958

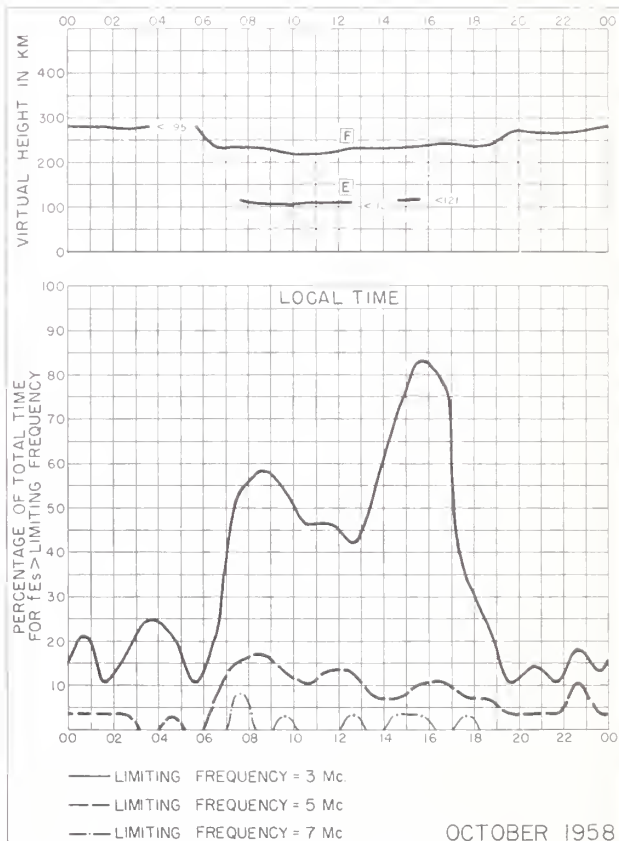


Fig. 100. CAPE CANAVERAL, FLORIDA

OCTOBER 1958

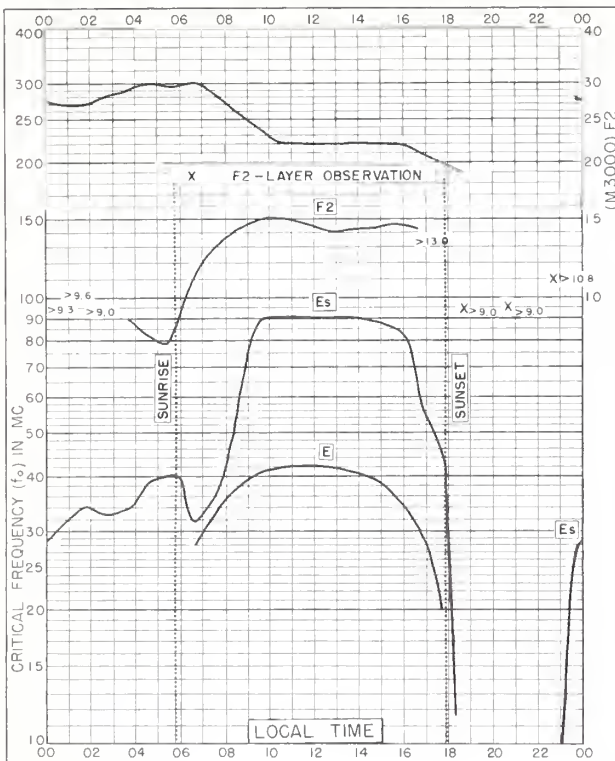


Fig. 101. NATAL, BRAZIL
5.3°S, 35.1°W

OCTOBER 1958

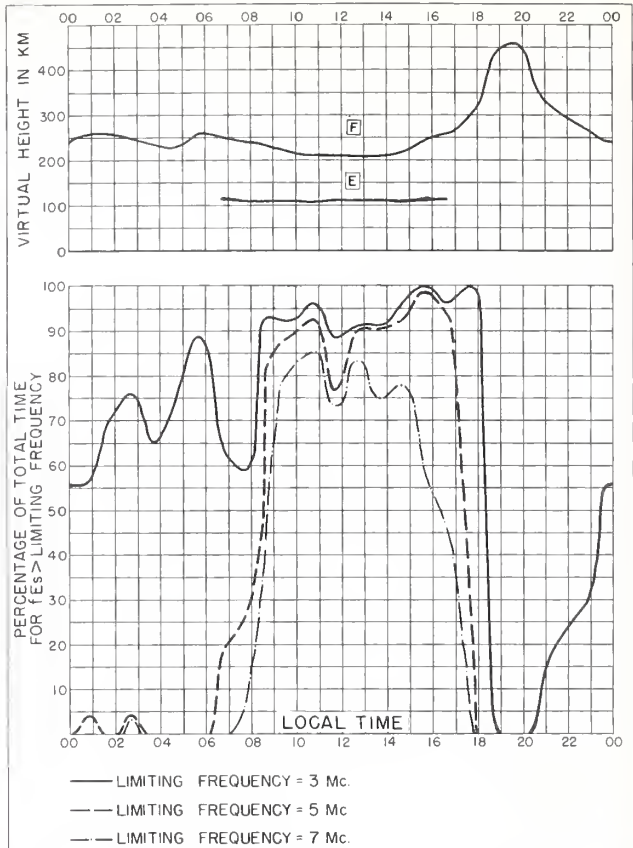


Fig. 102. NATAL, BRAZIL

OCTOBER 1958

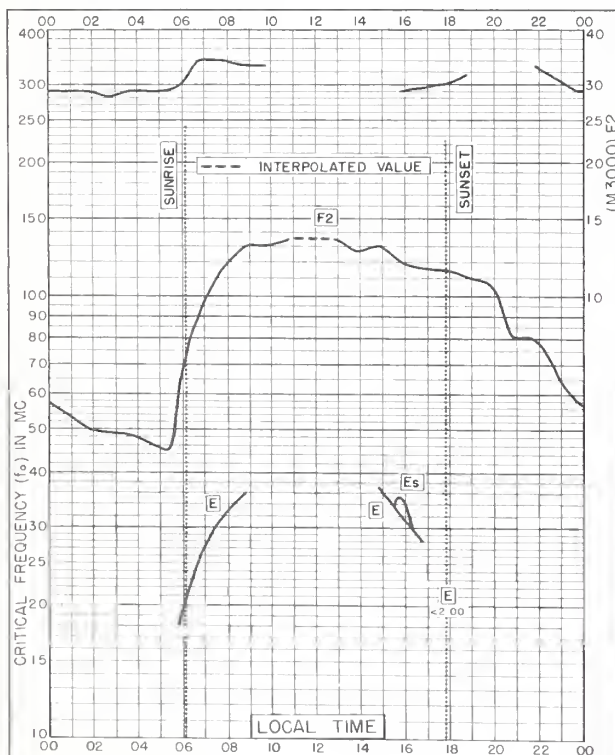


Fig. 103 GRAHAMSTOWN, UNION OF S. AFRICA
33.3°S, 26.5°E

SEPTEMBER 1958

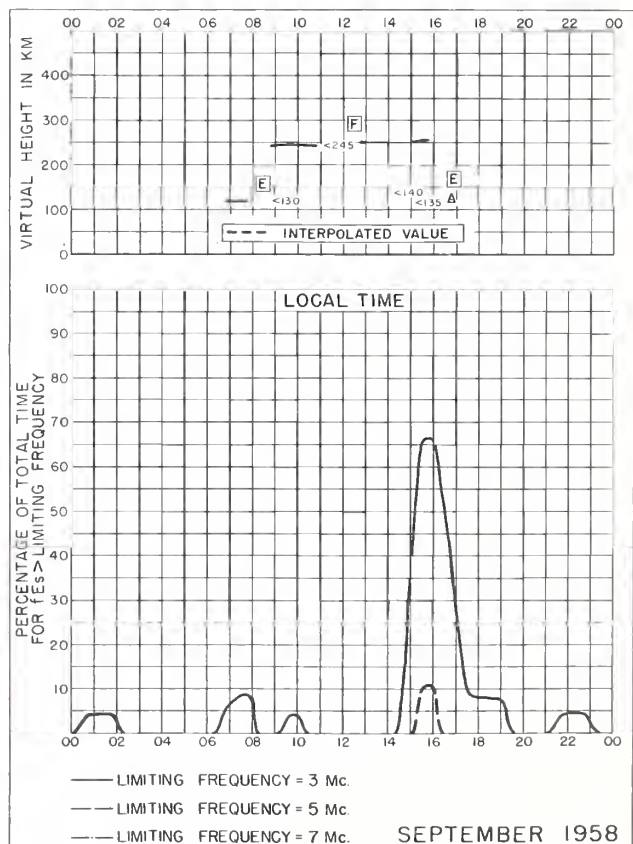


Fig. 104. GRAHAMSTOWN, UNION OF S. AFRICA

SEPTEMBER 1958

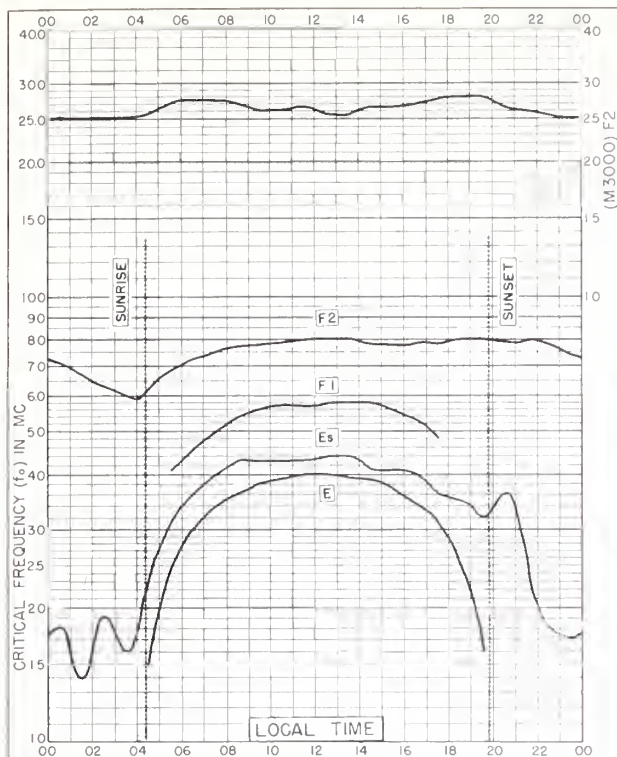


Fig 105. FREIBURG, GERMANY
48.1° N 76° E

JULY 1958

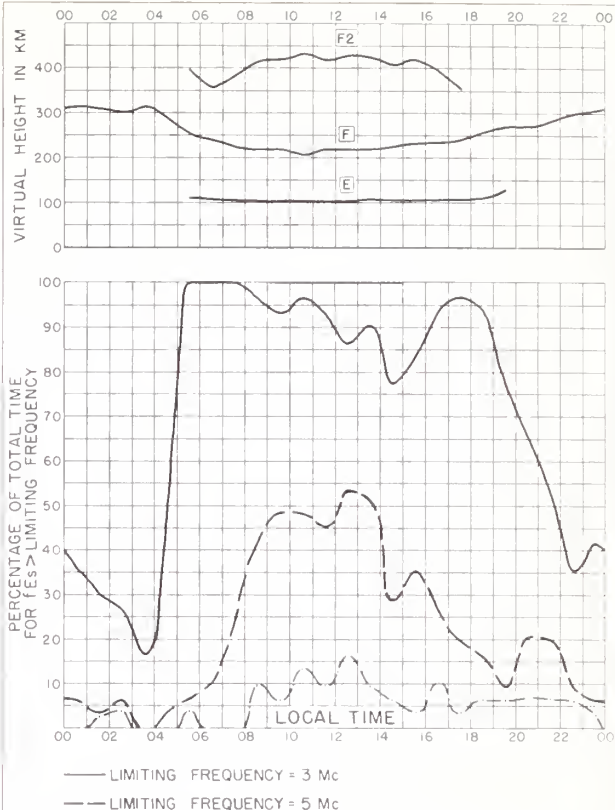


Fig 106. FREIBURG, GERMANY

JULY 1958

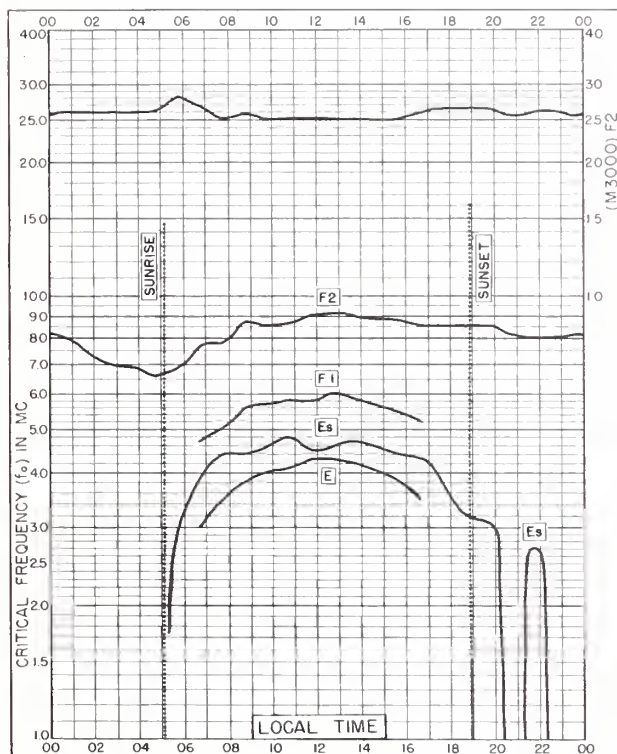


Fig 107. CAPE CANAVERAL, FLORIDA
28.4° N, 80.6° W

JUNE 1958

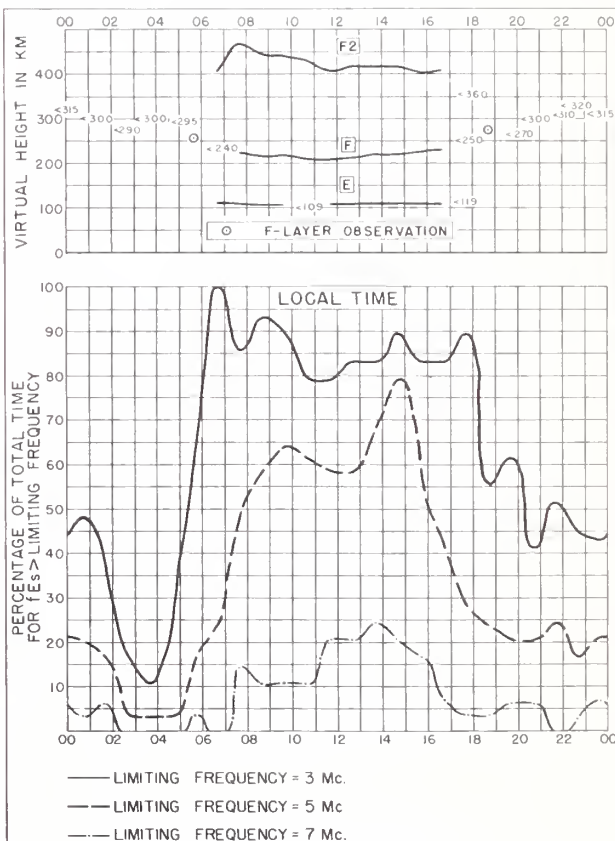


Fig 108. CAPE CANAVERAL, FLORIDA

JUNE 1958

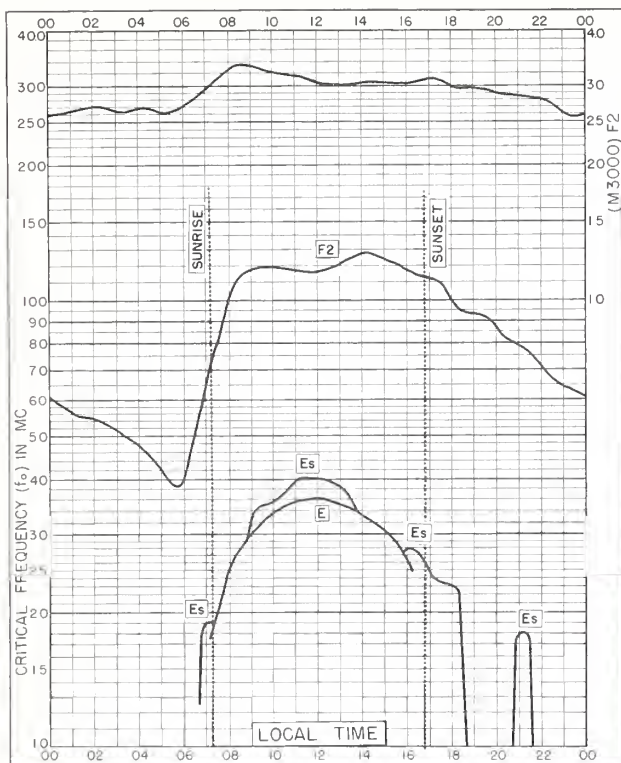


Fig. 109 CONCEPCION, CHILE
36.6°S, 73.0°W

JUNE 1958

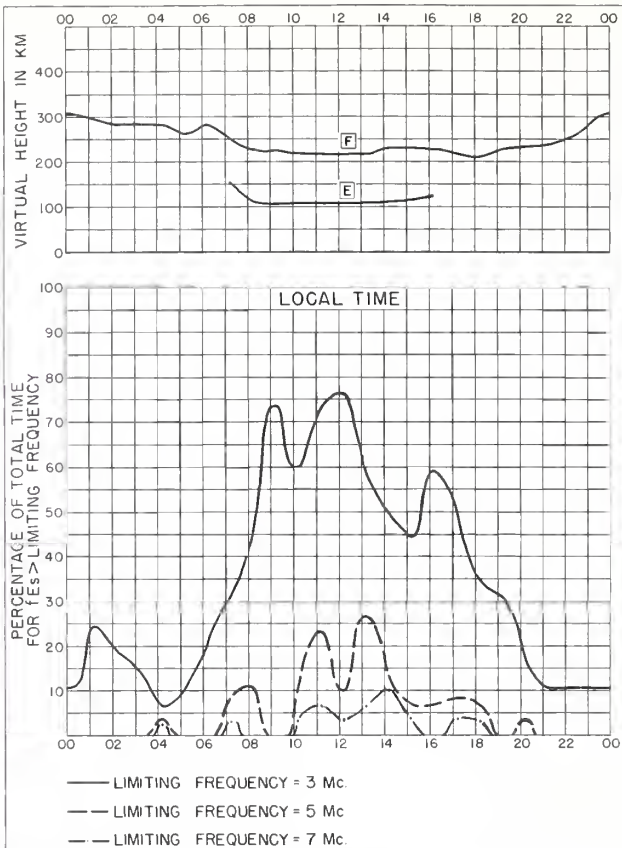


Fig. 110 CONCEPCION, CHILE

JUNE 1958

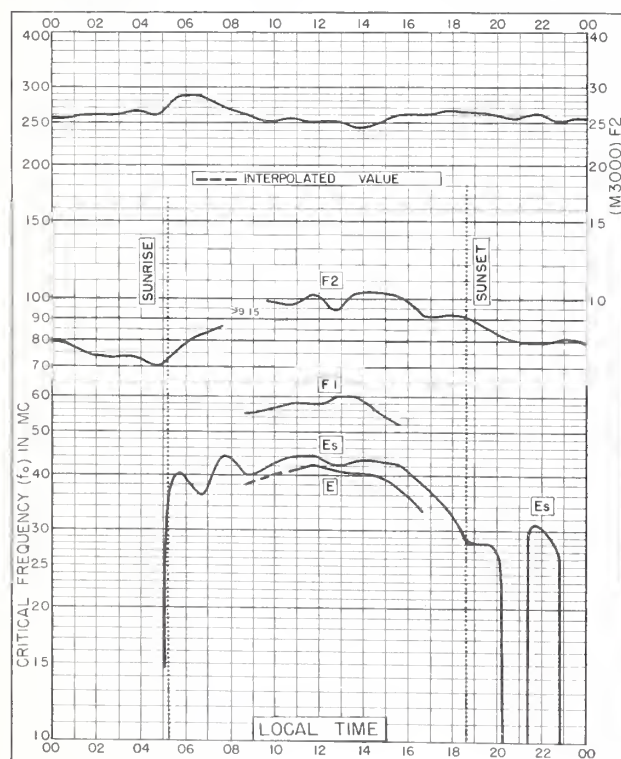


Fig. 111 CAPE CANAVERAL, FLORIDA
28.4°N, 80.6°W

MAY 1958

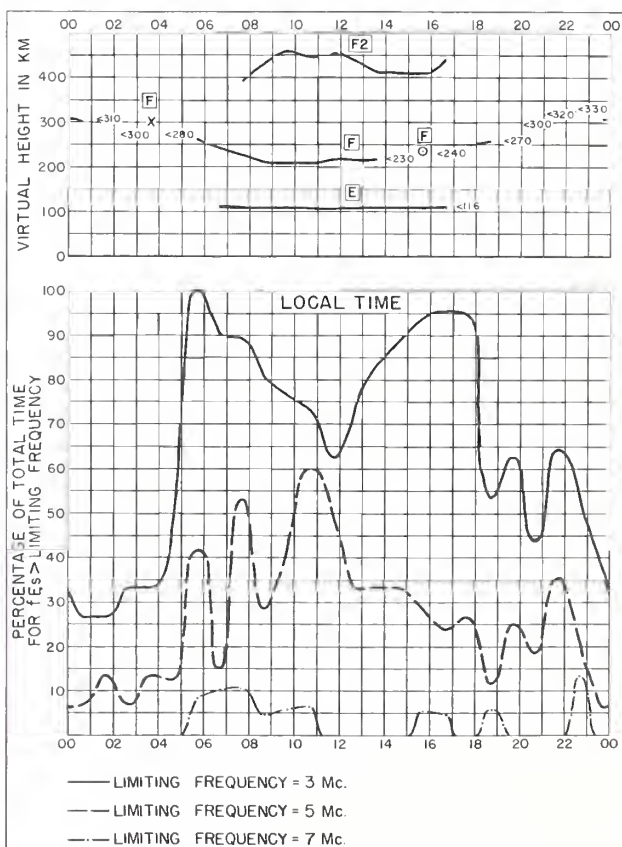


Fig. 112 CAPE CANAVERAL, FLORIDA

MAY 1958

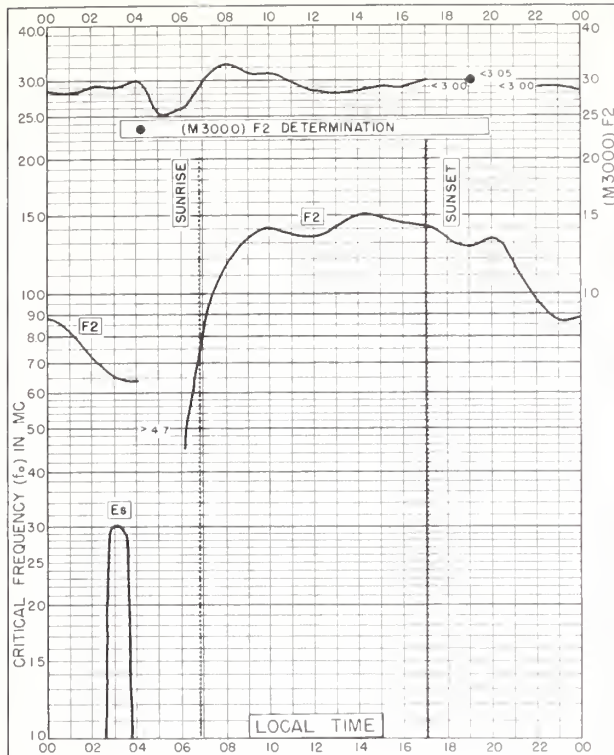


Fig. II3. BUENOS AIRES, ARGENTINA
34.5° S, 58.5° W
MAY 1958

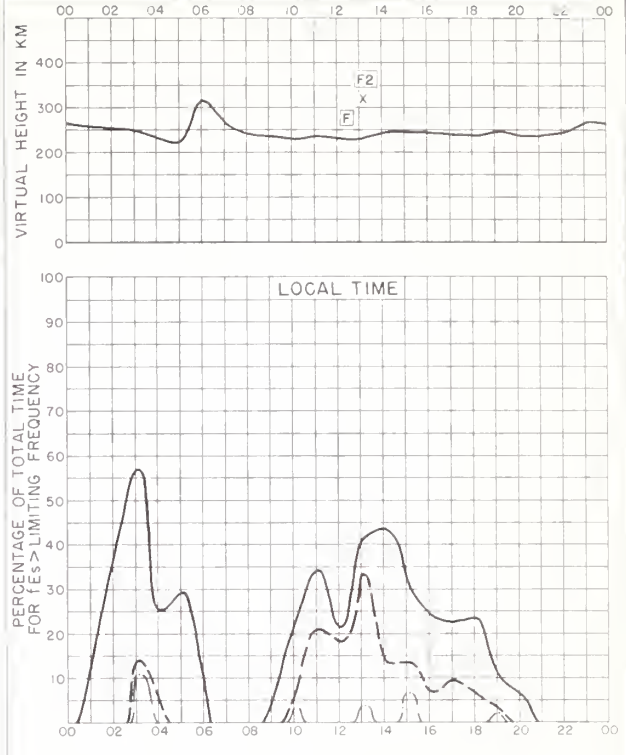


Fig. II4. BUENOS AIRES, ARGENTINA
MAY 1958

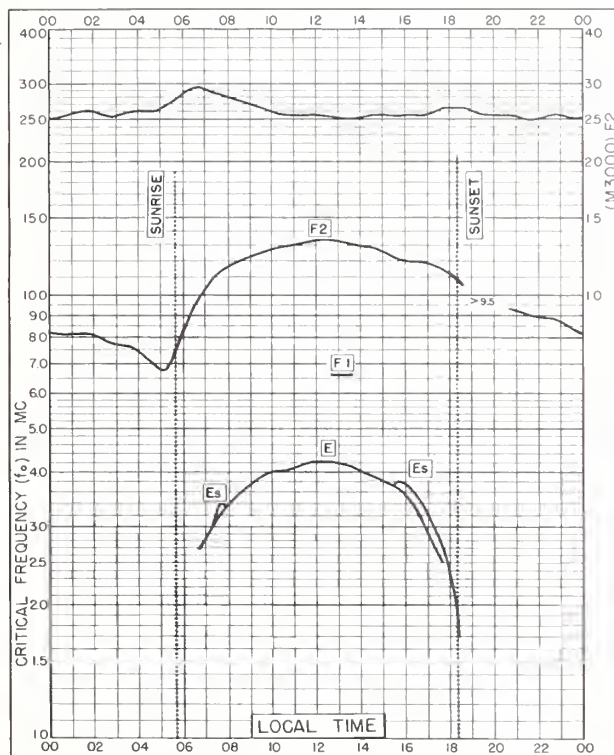


Fig. II5. CAPE CANAVERAL, FLORIDA
28.4° N, 80.6° W
APRIL 1958

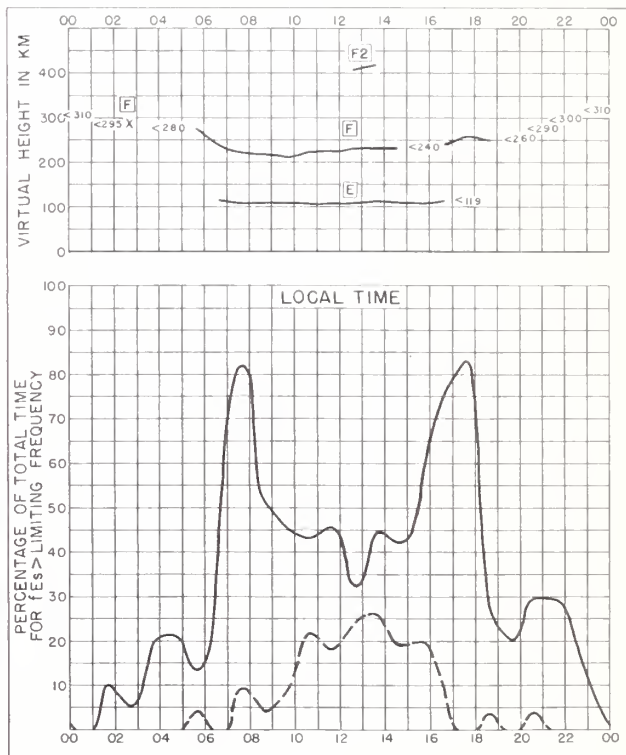


Fig. II6. CAPE CANAVERAL, FLORIDA
APRIL 1958

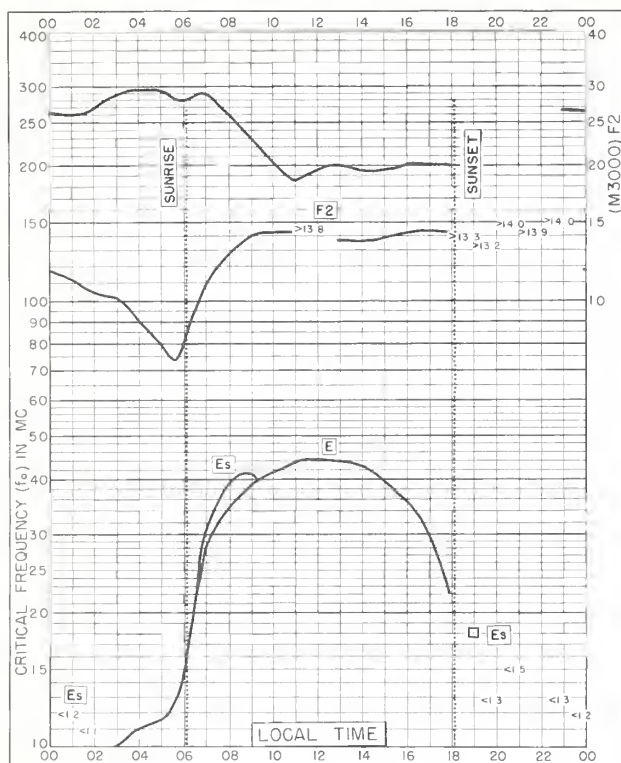


Fig. 117. SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E
MARCH 1958

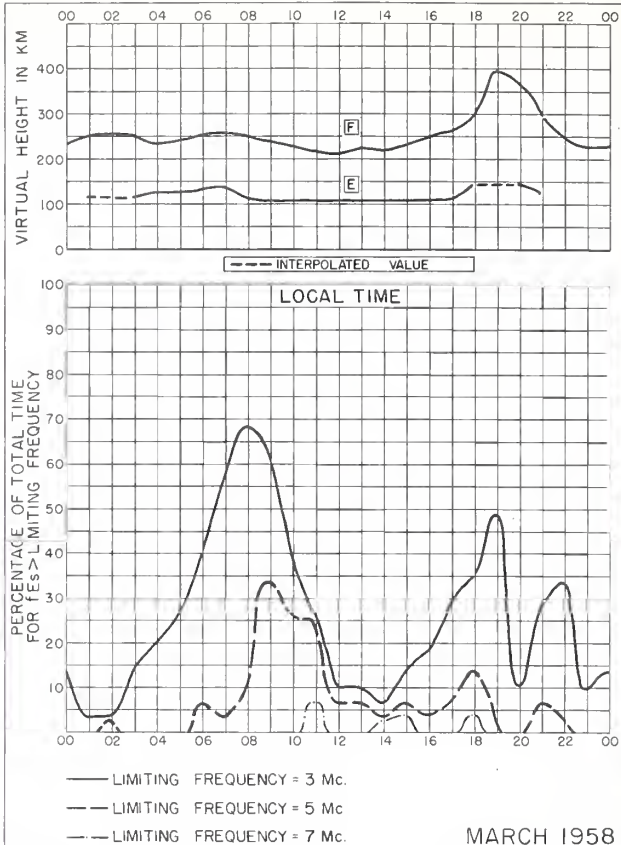


Fig. 118. SINGAPORE, BRITISH MALAYA
MARCH 1958

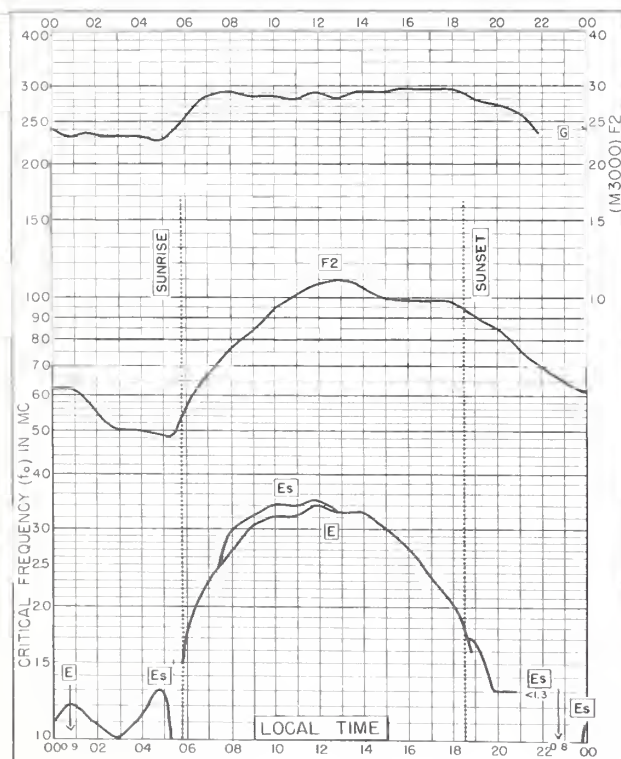


Fig. 119. PORT LOCKROY
64.8°S, 63.5°W
MARCH 1958

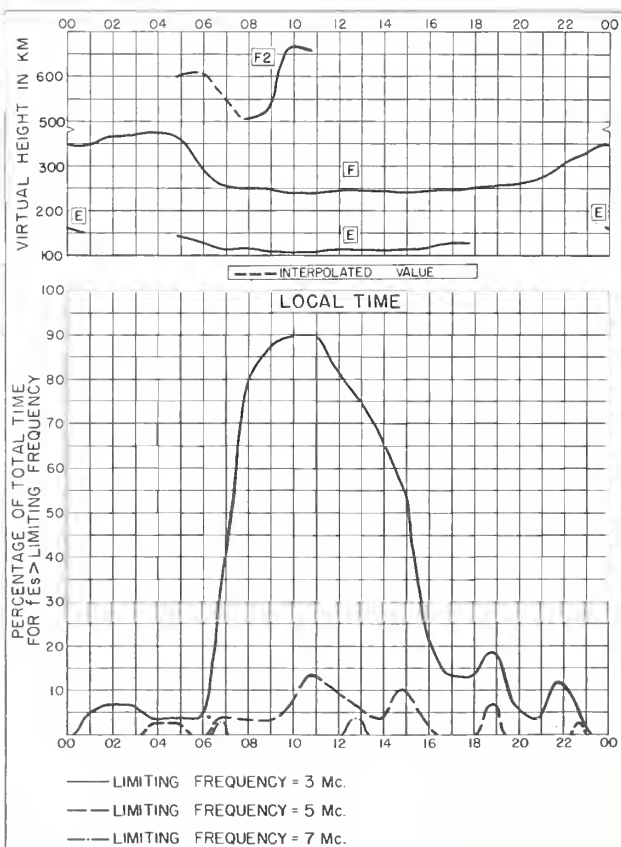
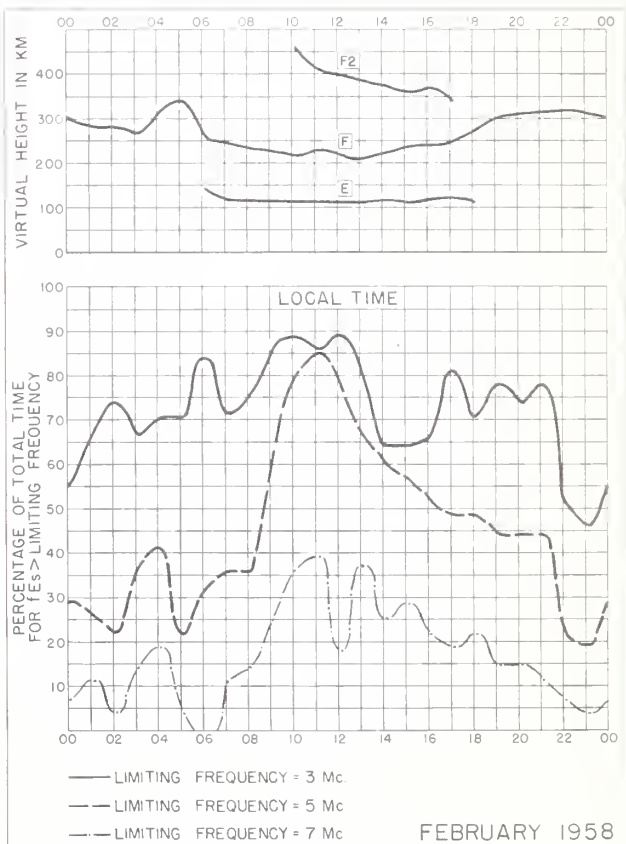
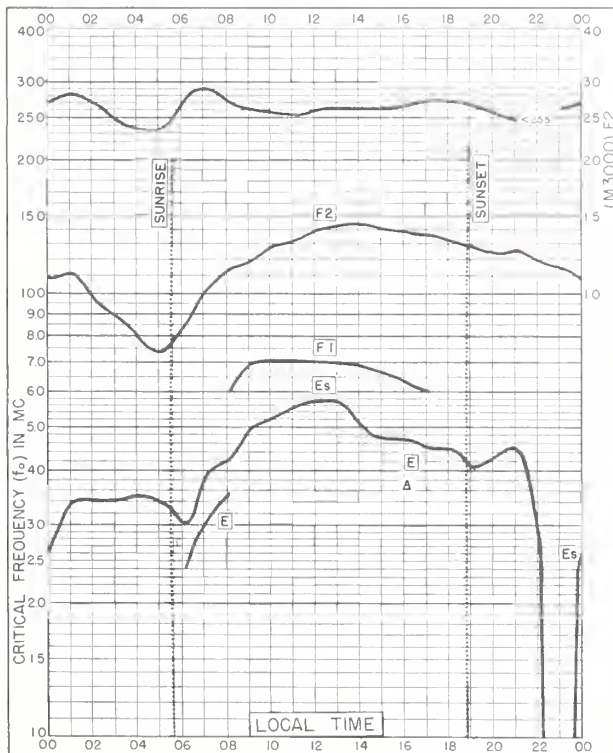
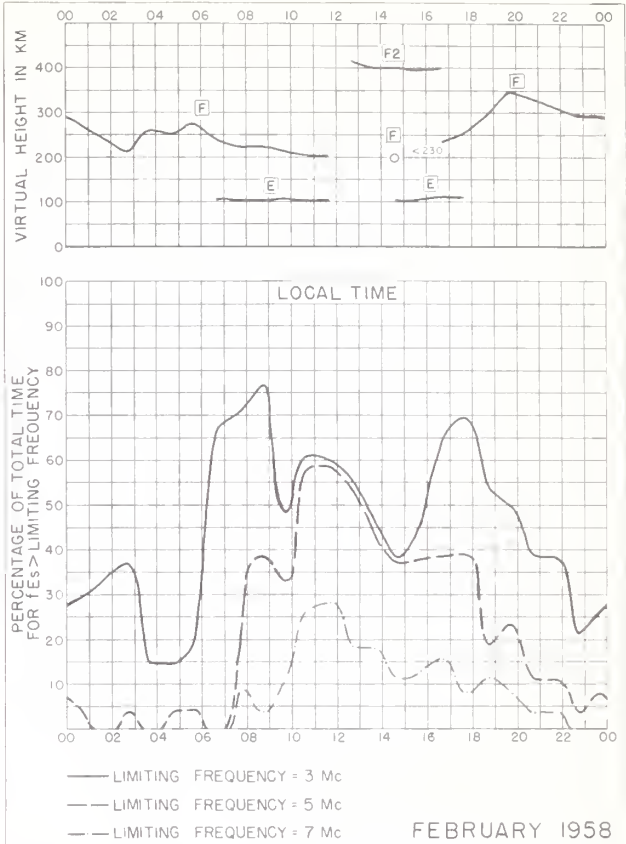
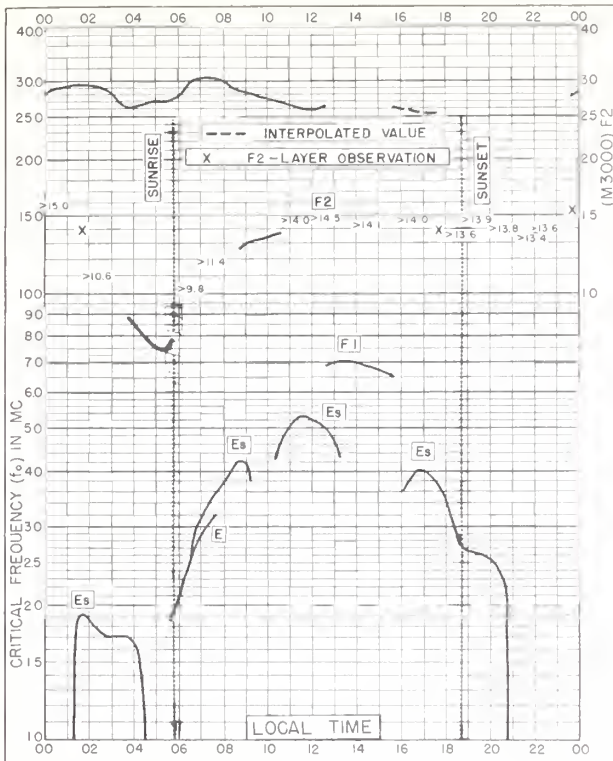
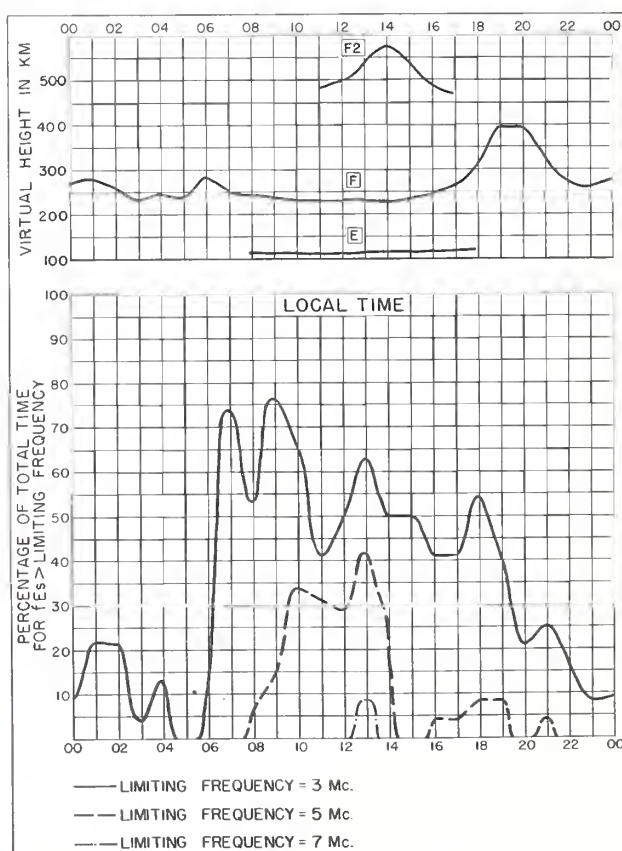
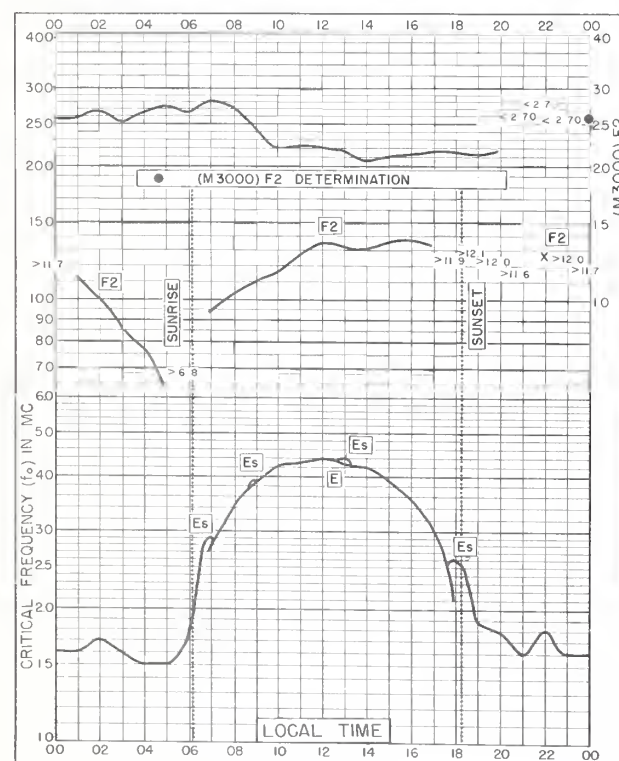
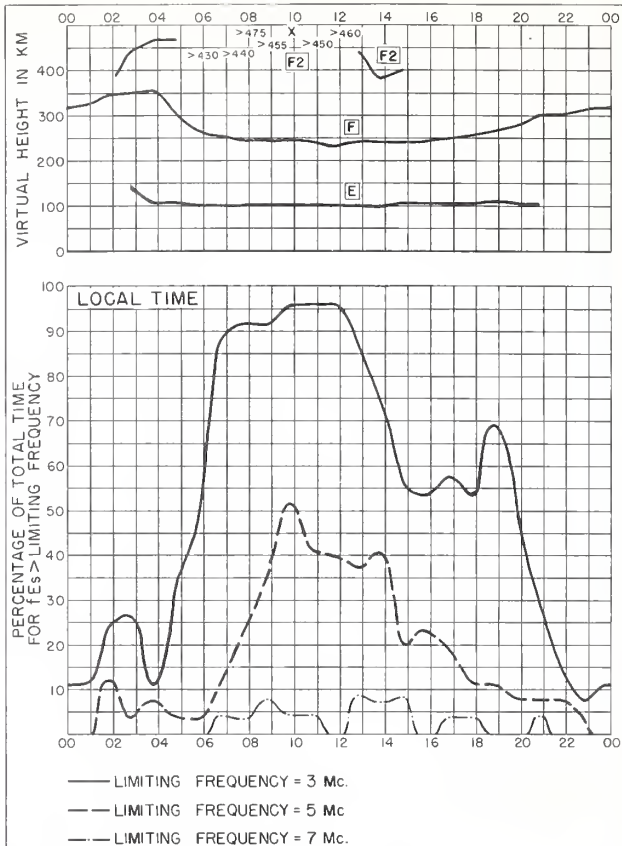
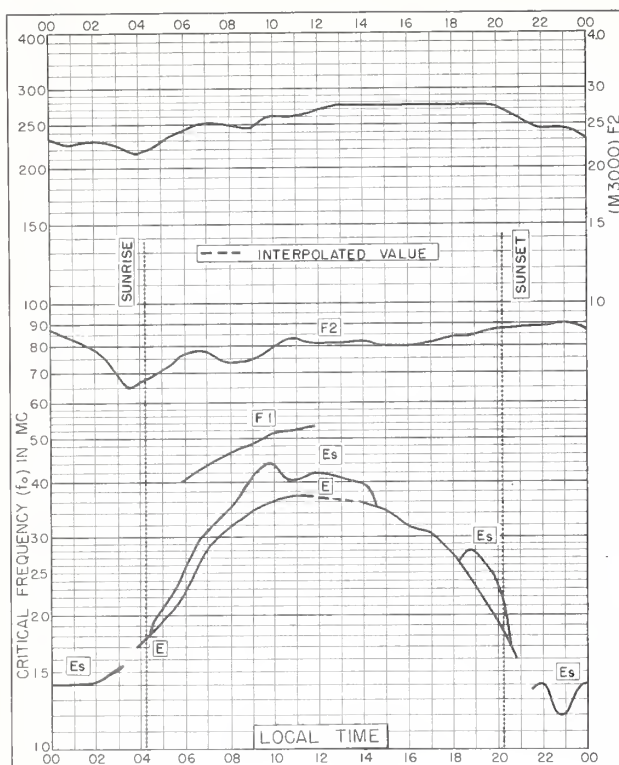


Fig. 120. PORT LOCKROY
MARCH 1958





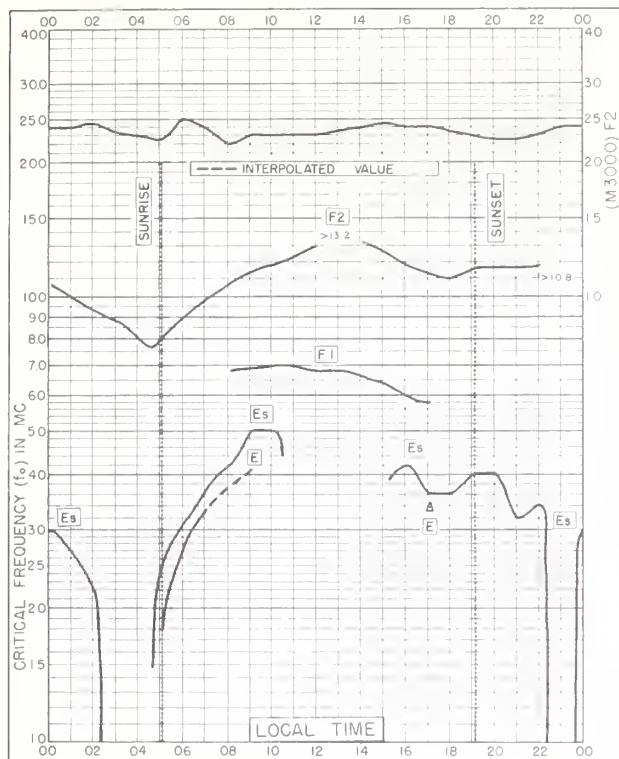
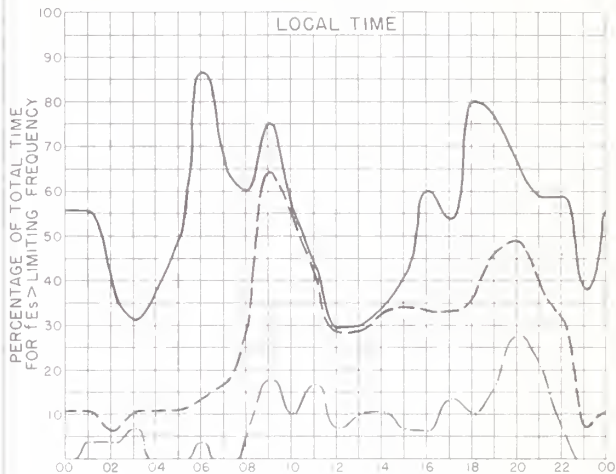
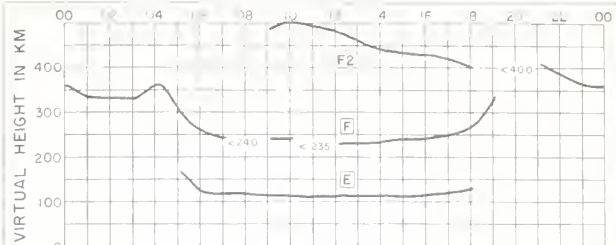


Fig 129 BUENOS AIRES, ARGENTINA
34.5°S, 58.5°W

JANUARY 1958



— LIMITING FREQUENCY = 3 Mc
- - - LIMITING FREQUENCY = 5 Mc
- . - LIMITING FREQUENCY = 7 Mc

JANUARY 1958

Fig 130. BUENOS AIRES, ARGENTINA

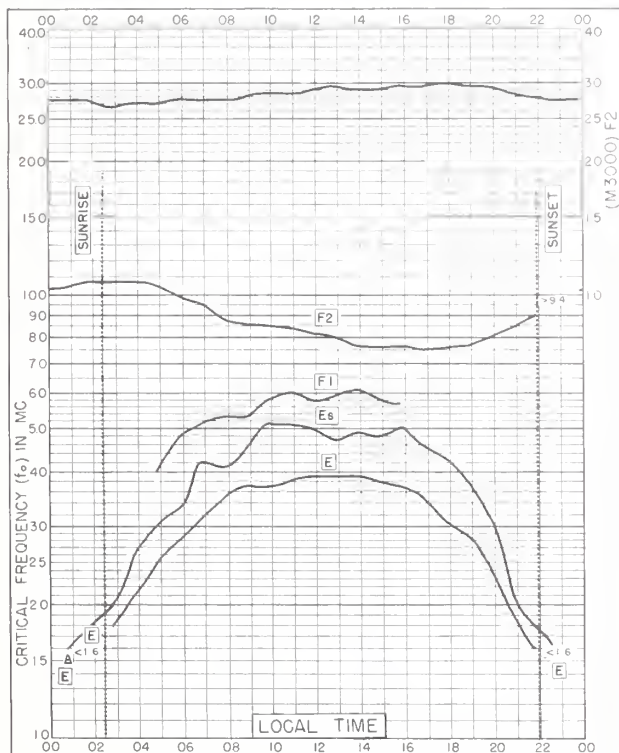
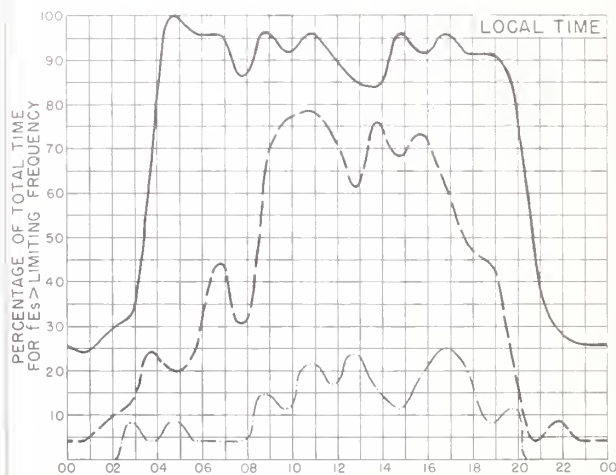
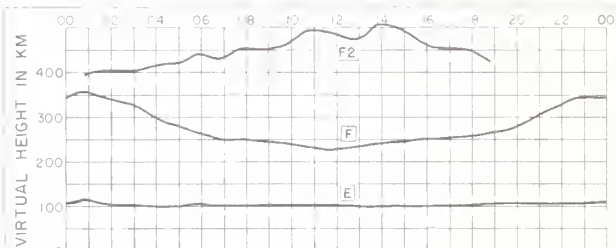


Fig 131. PORT LOCKROY
64.8°S, 63.5°W

JANUARY 1958



— LIMITING FREQUENCY = 3 Mc
- - - LIMITING FREQUENCY = 5 Mc
- . - LIMITING FREQUENCY = 7 Mc

JANUARY 1958

Fig 132. PORT LOCKROY

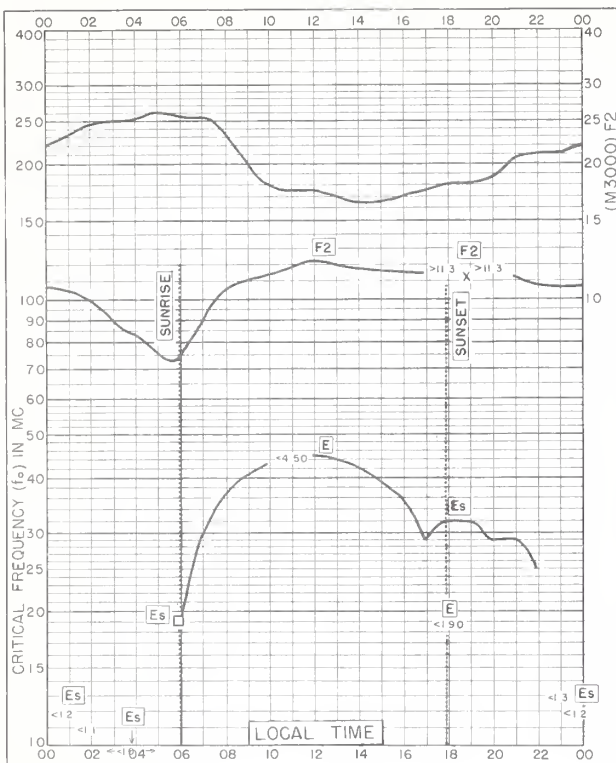


Fig. 133 SINGAPORE, BRITISH MALAYA
1.3°N, 103.8°E DECEMBER 1957

NBS 503

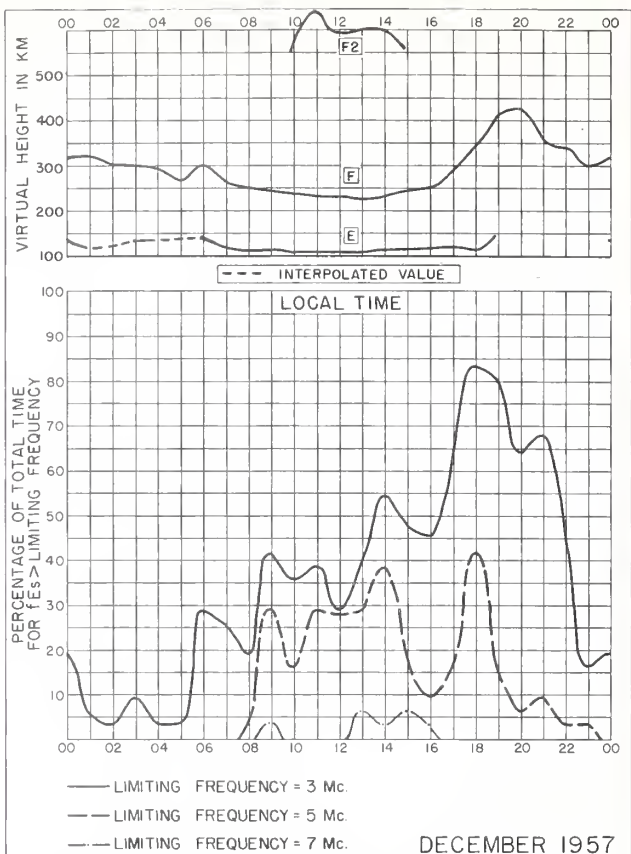


Fig. 134. SINGAPORE, BRITISH MALAYA DECEMBER 1957

Continued on opposite side of page.

NBS 490

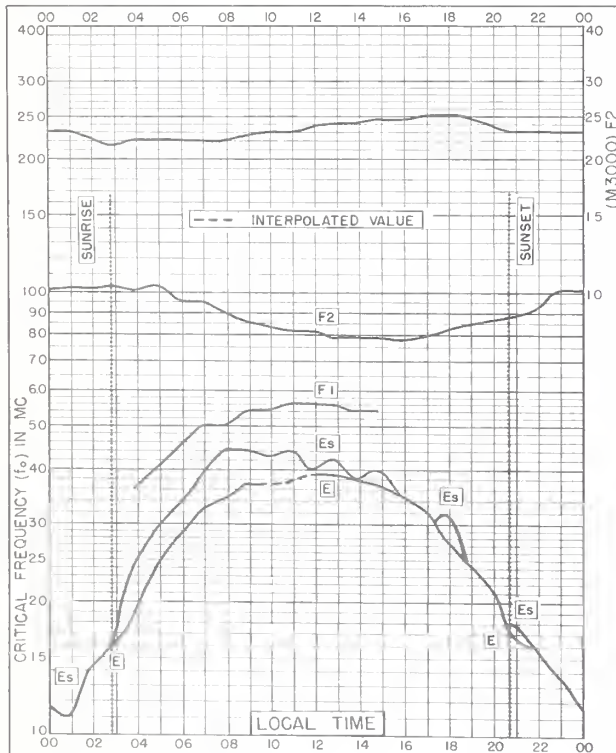


Fig. 135. PORT LOCKROY
64.8°S, 63.5°W NOVEMBER 1957

NBS 503

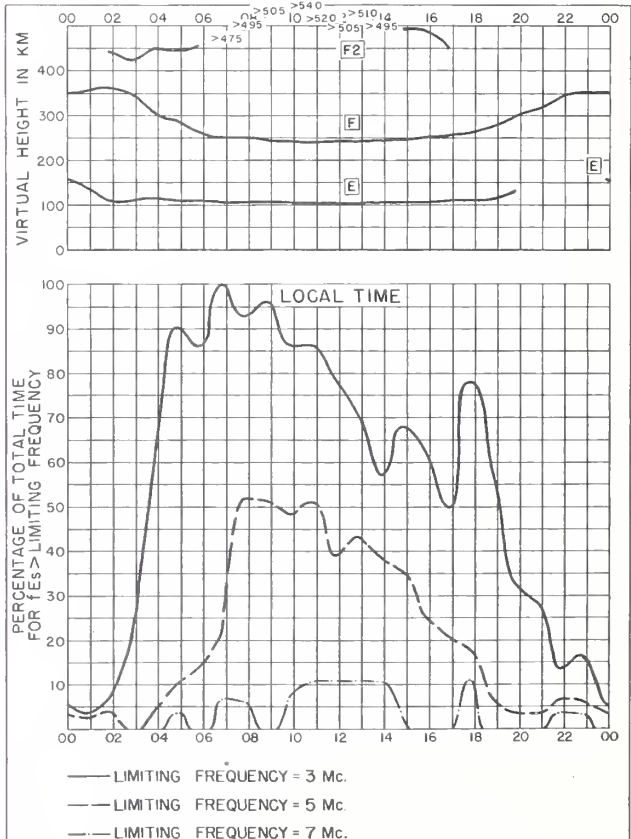
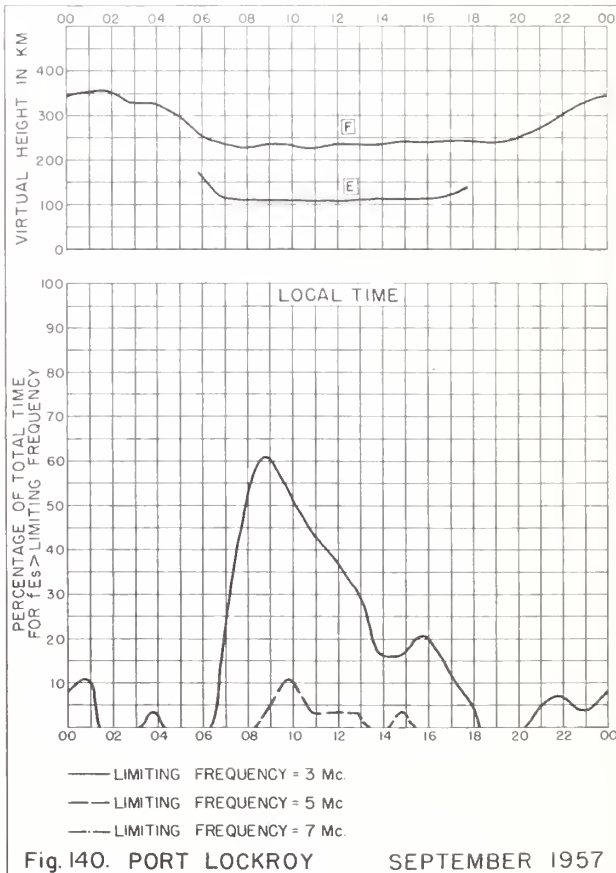
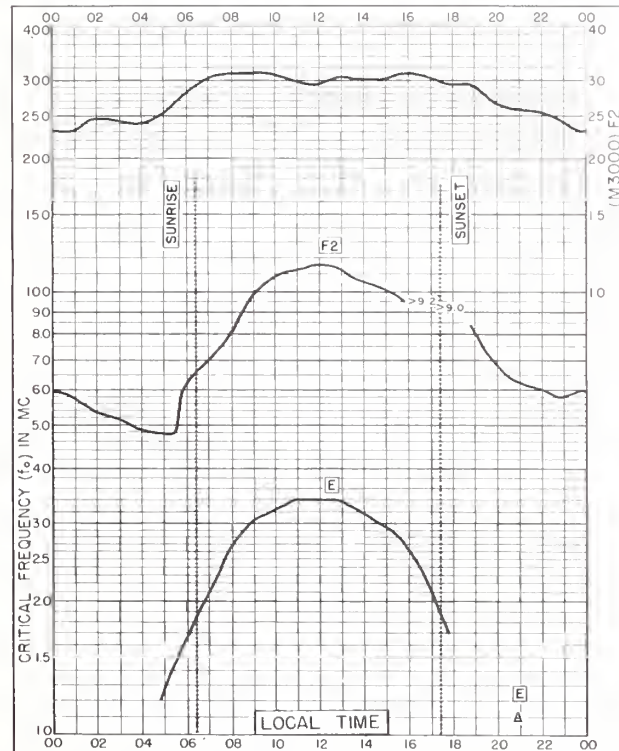
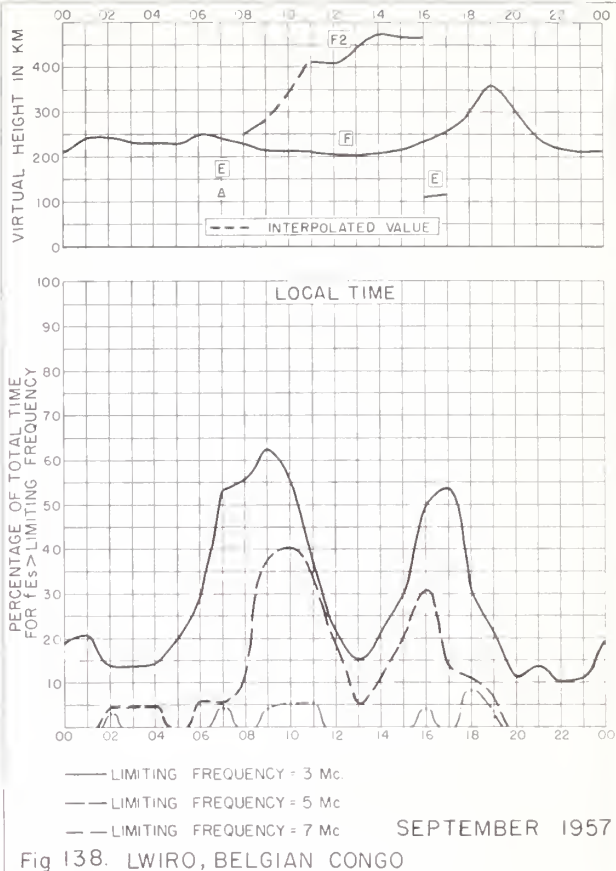
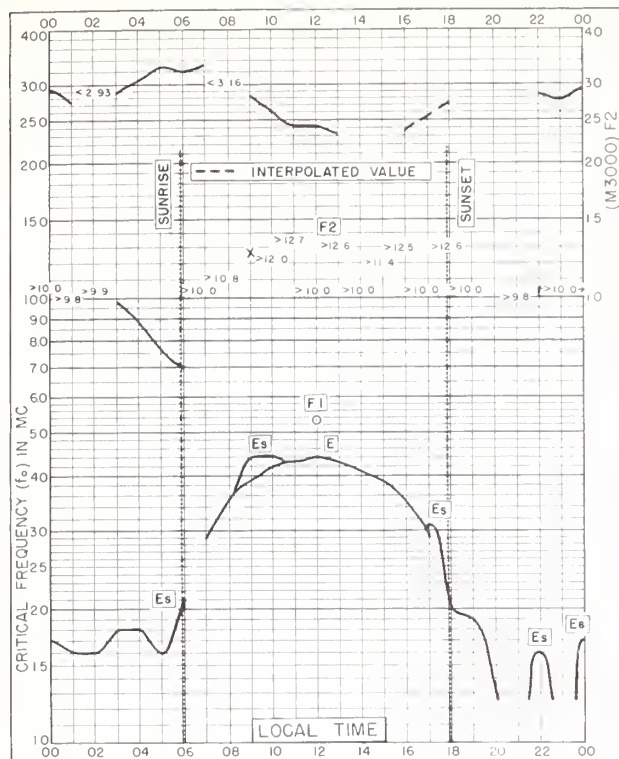
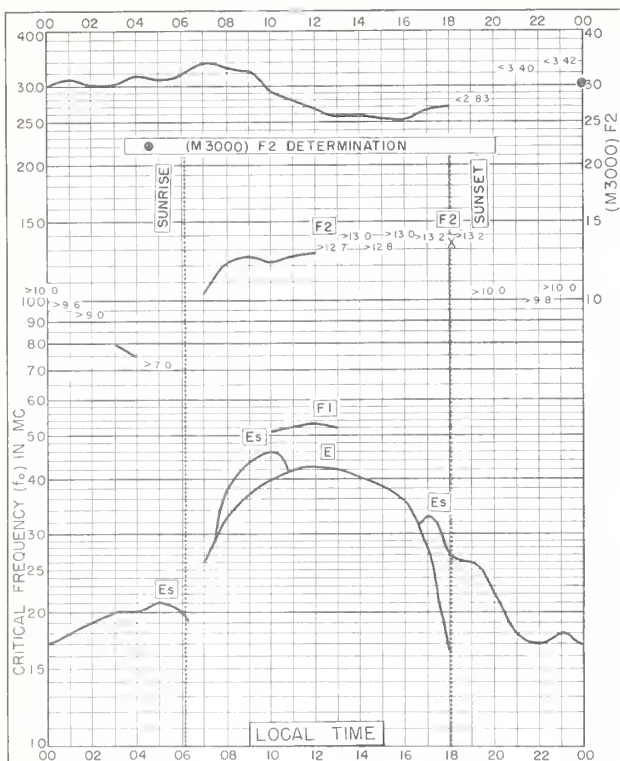


Fig. 136. PORT LOCKROY NOVEMBER 1957

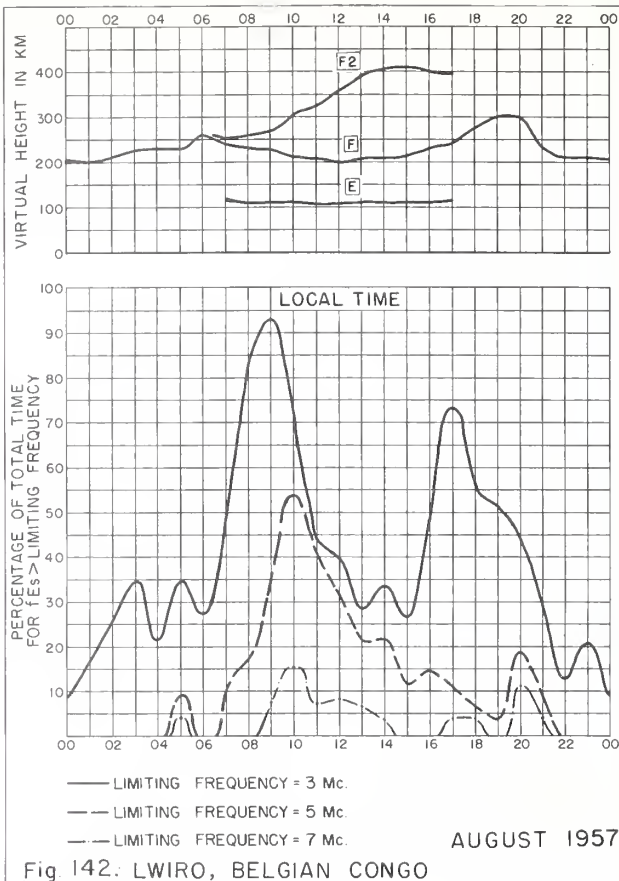
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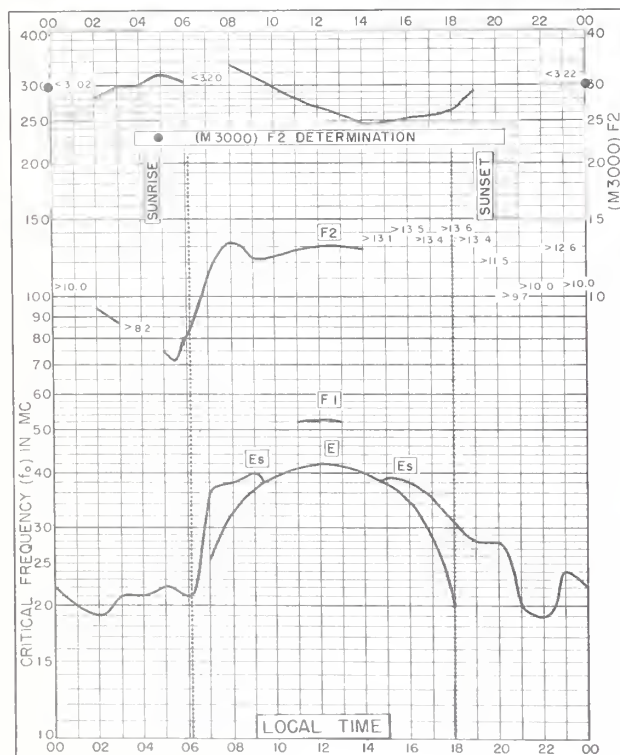




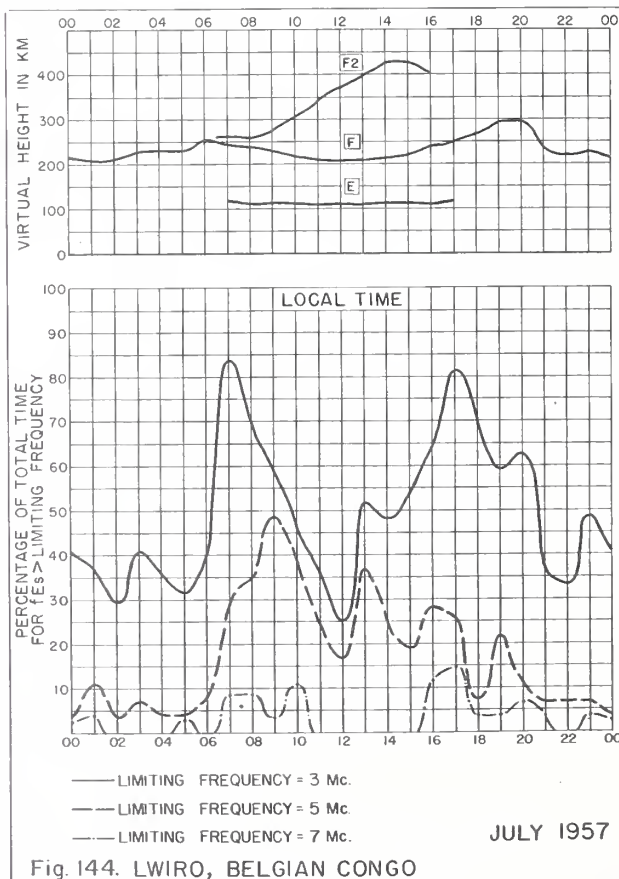
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